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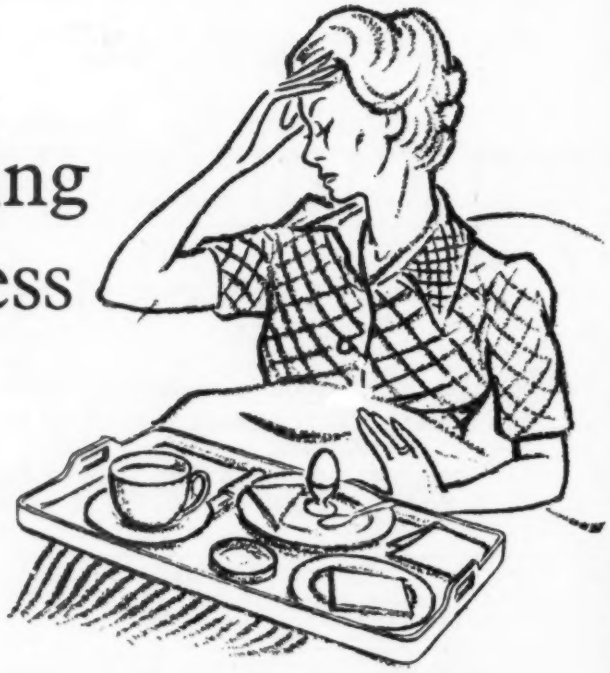

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No. 6939 LONDON: SATURDAY, AUGUST 25, 1956 CCLXXI

CONTENTS

THE WHOLE OF THE LITERARY MATTER IN THE LANCET IS COPYRIGHT

ORIGINAL ARTICLES

Essence of General Practice — L. W. BATTEN, M.R.C.P.... 365

An Examination of the Final Examination in Medicine — Prof. G. M. BULL, F.R.C.P... 368

Hospital Training as Preparation for General Practice — KEITH HODGKIN, M.R.C.P... 372

The Tutorial System in Medical Schools — JOHN R. ELLIS, F.R.C.P.... 375

The Individual Tutorial System in Clinical Medicine — P. C. REYNELL, M.R.C.P.... 378

Testing for Learnt Skill in Observation and Evaluation of Evidence — D. W. JAMES, M.B., M. L. JOHNSON, PH.D., P. VENNING ... 379

Display Panels as a Teaching Aid in Gynæcology — J. K. RUSSELL, M.R.C.O.G., DOROTHY MUSTART, A.T.D., C. J. DUNCAN, F.R.P.S.... 383

LEADING ARTICLES

EXAMINATIONS ... 385

ANNOTATIONS

Medical Ethics Explained... 387
Experiments on Students... 387
Ideas and Ideals... 388

POINTS OF VIEW

The Outlook for the Surgical Apprentice — BARRY O'DONNELL, F.R.C.S. 389

SPECIAL ARTICLES

English for Doctors — RAYMOND WHITEHEAD, M.D. 390

LETTERS TO THE EDITOR

University of Natal (Dr. D. R. Laurence) ... 393

STUDENTS' GUIDE—SESSION 1956-57

MEDICAL SCHOOLS

Oxford University — Cambridge University ... 395

LONDON SCHOOLS: London University—University College—King's College—Queen Mary College — University College Hospital — St. Bartholomew's Hospital—Charing Cross Hospital—St. George's Hospital—Guy's Hospital—King's College Hospital—The London Hospital—St. Mary's Hospital—Middlesex Hospital—Royal Free Hospital—St. Thomas's Hospital—West London Hospital—Westminster Medical School—Royal Dental Hospital... 395

OTHER ENGLISH SCHOOLS: Universities of Durham, Birmingham, Liverpool, Manchester, Leeds, Sheffield, Bristol... 398

WALES: Welsh National School of Medicine... 400

SCOTLAND: Aberdeen University—Edinburgh University—Glasgow University—St. Andrews University... 400

IRELAND: University of Dublin—Schools of Surgery—Royal College of Surgeons—Queen's University, Belfast—National University of Ireland... 401

THE DEFENCE SERVICES

Royal Naval Medical Service... 411
Royal Army Medical Corps... 412
Royal Air Force Medical Branch 413

HEALTH SERVICES AT HOME

Public Health... 414
Industrial Medical Services... 415
Prisons and Borstal Institutions 416

GENERAL MEDICAL COUNCIL

Registration ... 410

POSTGRADUATE EDUCATION

In London: British Postgraduate Medical Federation... 404
Royal Colleges, Hospitals, Schools, &c. ... 406
Provinces: Birmingham—Bristol—Cambridge—Durham—Leeds—Liverpool—Manchester—Oxford—Sheffield... 407
Wales: Cardiff... 409
Scotland: Aberdeen—Edinburgh—Glasgow—St. Andrews... 409
Ireland: Dublin... 410

DEGREES AND DIPLOMAS

Examining Boards: English, Scottish, and Irish Conjoint Boards—Apothecaries' Licences 401
University Degrees... 402
Higher Qualifications... 402
Membership and Fellowship... 402
Special Degrees and Diplomas... 403

SERVICES ABROAD

Her Majesty's Oversea Service.. 416
Federation of Rhodesia and Nyasaland... 417
Medical Missionary Service... 417

The Medical Research Council... 417
Medical Practices Advisory Bureau... 418
The British Medical Students' Association ... 418
Empire Medical Advisory Bureau 419
International Medical Visitors Bureau... 419
The Medical Women's Federation 419

REVIEWS

Notices of Books... 384

IN ENGLAND NOW

A Running Commentary by Peripatetic Correspondents... 394

NOTES AND NEWS

Universities and Parliament.... 420

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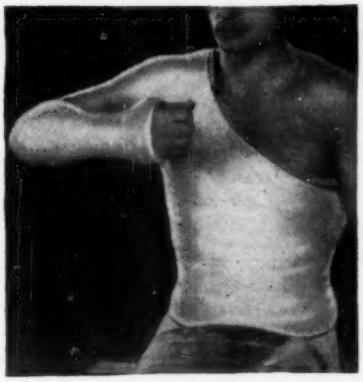

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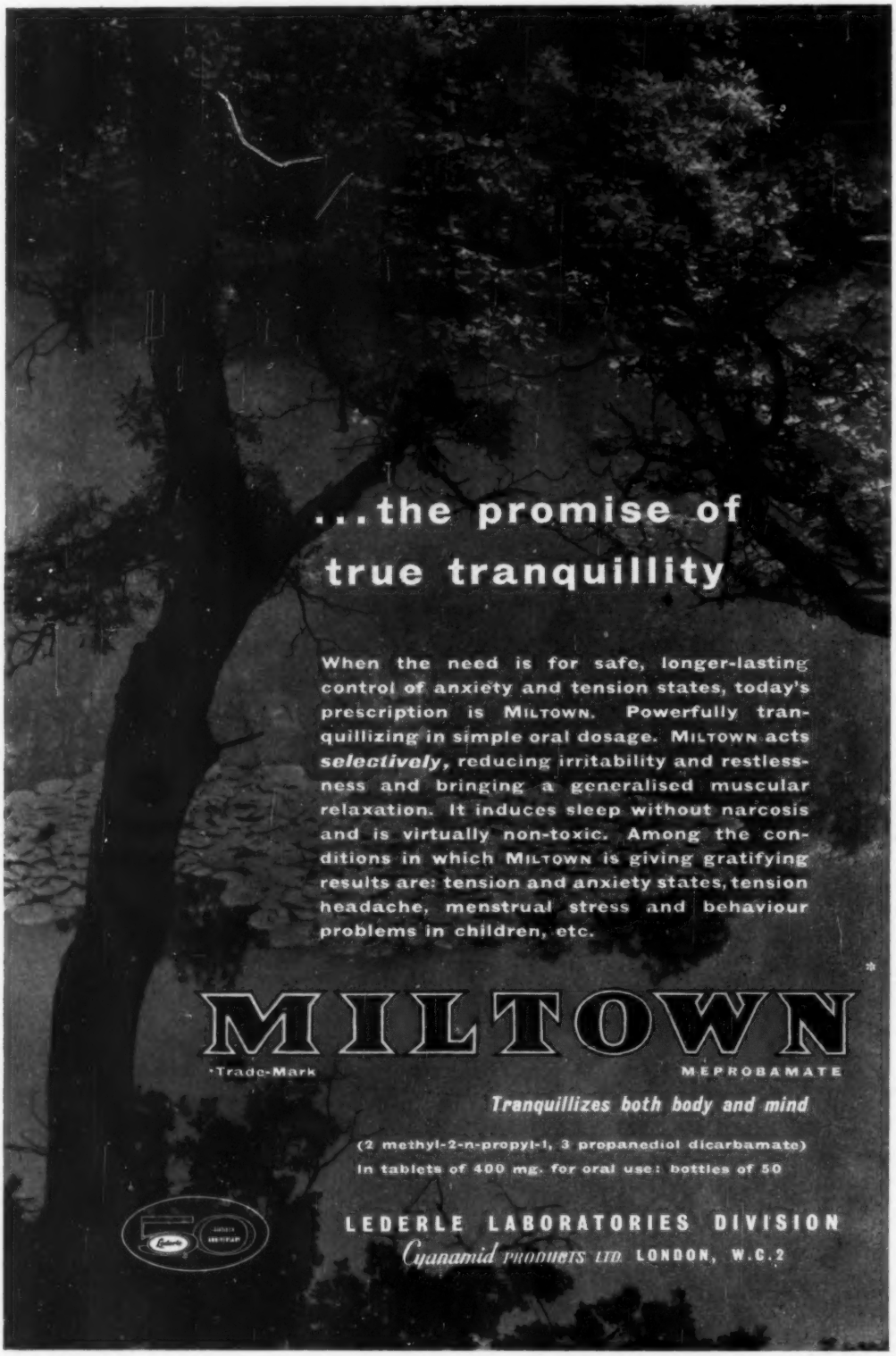
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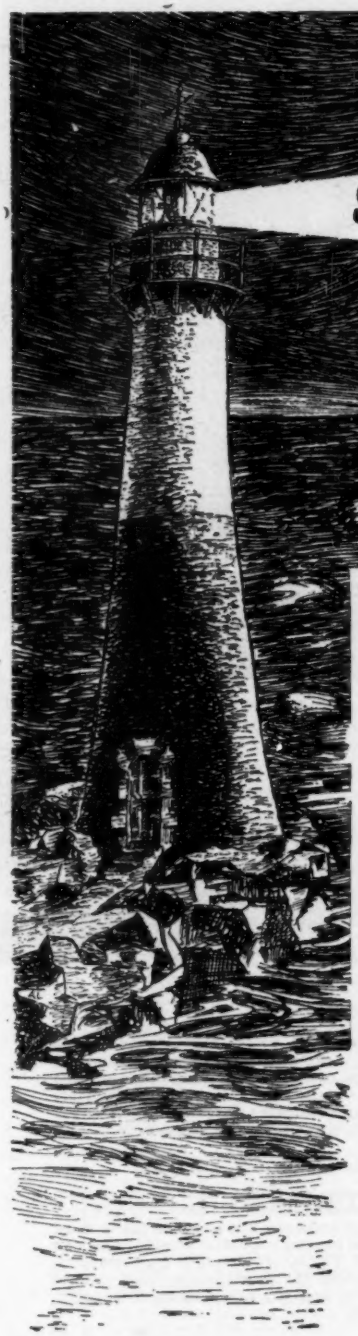

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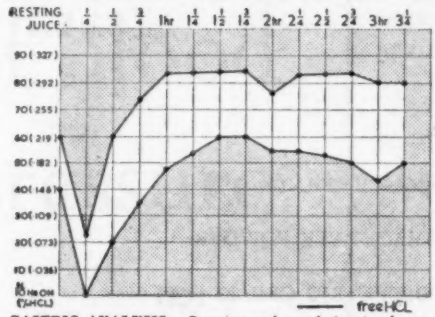

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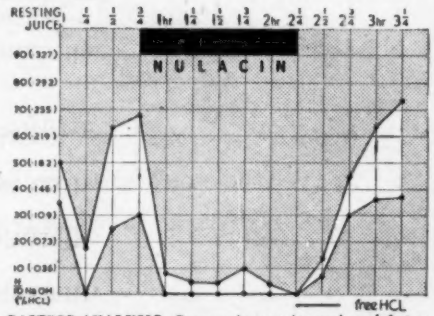

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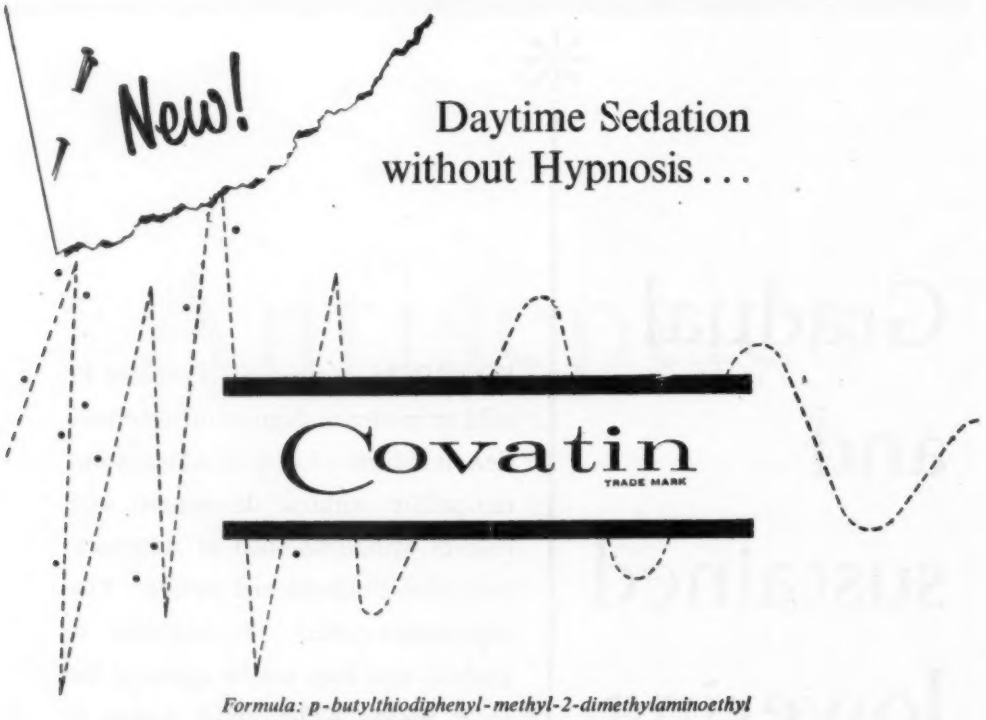

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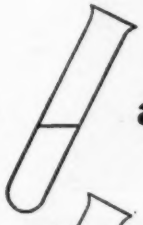

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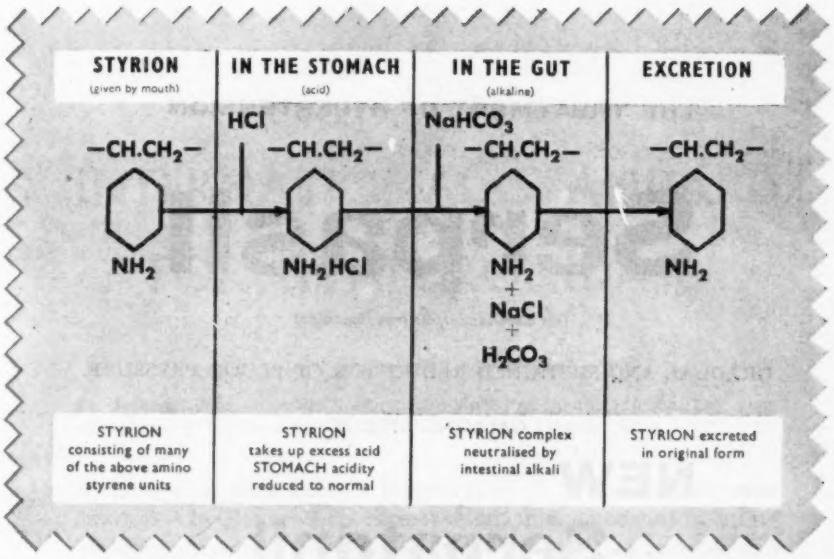

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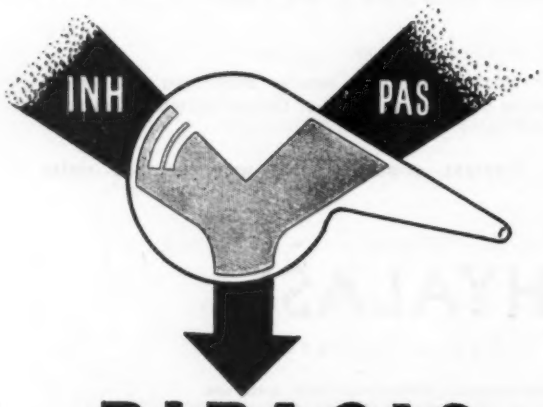

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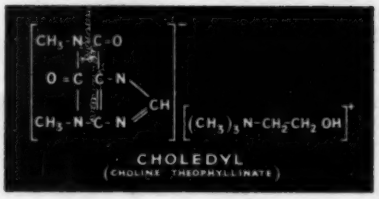

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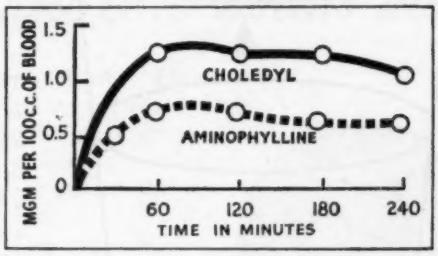
COMPARISON OF THEOPHYLLINE BLOOD LEVELS FOLLOWING A SINGLE ORAL DOSE OF 800 mg. CHOLEDYL AND FOLLOWING A SINGLE ORAL DOSE OF 800 mg. AMINOPHYLLINE.



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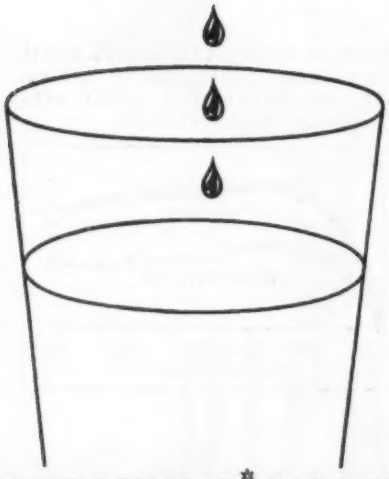

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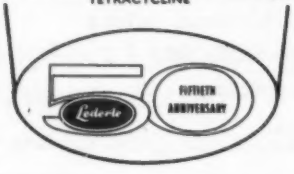

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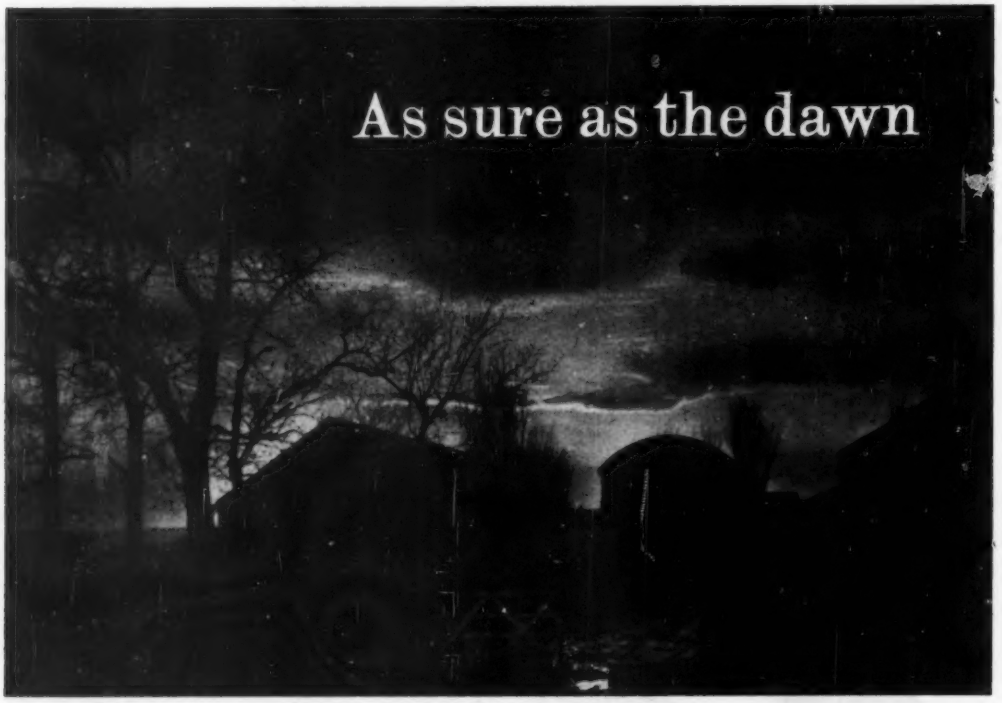

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ESSENCE OF GENERAL PRACTICE*

L. W. BATTEN
M.B. Camb., M.R.C.P.
CHAIRMAN OF THE NORTH LONDON FACULTY OF THE COLLEGE OF GENERAL PRACTITIONERS

ONCE upon a time a young lady doctor was putting up for R.M.O. at a small children's hospital in London—since liquidated. She duly met the medical committee, sitting at the house of one of its members. The chairman said: "Miss Robinson, will you tell us what branch of medicine you eventually hope to take up?" She said: "Well, I suppose in the end I shall drift into general practice."

I remember nothing more about her except her neat little hat. She may now be an excellent family doctor. More likely she has become a joyful mother of children, doing a bit of infant welfare on the side, but her remark has stuck in my mind. She was candid, though scarcely diplomatic. What she said she expected to do many have done in the past. I think I did it myself (though the shattering effect of the 1914 war on all planning may partly excuse me). Many, I am sure, still do it; but it never was a good thing to do and it becomes yearly less and less good or even prudent. Suppose the young woman had said: "Well, what I really want to be is a family doctor," how the hearts of everyone round that table, G.P. and specialist alike, would have warmed towards her! I think she would have got the job on that alone.

Why did she not say it? Why did it not enter her head to say it? Presumably because she had never given general practice a positive thought. It was for her a rubbish-heap, a *faute de mieux*, a refuge of failed specialists, an easy highway on which all could amble, especially those who found other ways too steep, too exacting, or too crowded with competitors, a place for the tinker in medicine, the jack-of-all-trades or, at best, the specialist in minor disorders and trivialities.

If she did think thus she had got it wrong—badly wrong. But what is the essence of the thing? What, if you enter general practice, do you hold yourself out as being or as being prepared to do? Not, of course, everything. The words "physician, surgeon, and accoucheur," implying that the man behind the brass plate was really a kind of medical trinity, are out of fashion. We are more modest, and that is well up to a point, but not beyond it.

The general practitioner does indeed hold himself out as ready to be consulted about any lesion, disease, malfunction, or disharmony in the whole or any part of the body; to examine into it and sort it out and either to deal with it himself or at least to give pertinent and useful advice and to put the patient in the way of obtaining the investigation and treatment he ought to have. One might go still further, because not only do patients bring to their doctor bodily symptoms due solely to emotional conflicts but they will sometimes treat him quite frankly as their guide in life's perplexities and they will also come, or bring their children, to display their good health and to ask him to maintain it.

Are these bogus pretensions, which we should confess to be beyond any man's reach? Is the whole idea of a general practitioner a sham? Frankly I do not think so.

It is not beyond the power of a well-trained, intelligent medical man to get—and make some sense of—an honestly given medical history; to make a useful and purposeful examination, direct or indirect, of any organ or part of the body (not of course a complete examination but one which will throw light on the nature of the trouble); to form a working hypothesis if he cannot make a diagnosis, and to decide on the most useful next step if he cannot deal finally with the trouble himself.

But very often he can. May I illustrate, and try, at the same time, to throw light on the "nothing but trivialities" conception of practice? Suppose yourself, if you will, the well-trained, intelligent, yet only life-size practitioner I have mentioned, sitting at the receipt of custom in your surgery or consulting-room, and let me bring you some samples to test your capacity.

Tests

First some very little jobs—fishbone in the tonsil, pus in the nailbed, wax in the ear, speck of grit under the upper lid. You can do them, of course. Dresser's work? Well, yes, if you like, but each requires an appreciable amount of judgment and artistry. You can attack the paronychia today when you ought to leave it till tomorrow; you can incise when you need only lift the skin; you can use hot or cold water for the wax and send your patient into a vertical spin; and as for the speck under the eyelid, I performed this little service not long since for a specialised physician for whom I had the highest regard, and he told me it was a thing he had never learnt to do. Anyhow the point is that you can all do these things, and that if you do them nicely your patients will be surprisingly grateful.

Next comes an anxious mother of a two-year-old who "drags one foot" or "turns in his toes" or "is terribly flat-footed." He toddles round the room, shod and then unshod; rises nicely on tiptoe, with suitable encouragement, and displays charming little plantar arches when he sits. He is learning to walk, of course. You knew that before you saw him. Well, he provides a very simple diagnostic exercise in the field of orthopædiatrics, but a quite hard enough one in the art of persuasion or of debunking without offence. A modicum of courage is also required; but if you perform the exercise successfully you will have done the child a major service, whereas if you hedge you may well spoil his childhood—perhaps even his youth. All this goes equally for a manifestly innocent cardiac murmur.

Now let me present a young girl who has not "picked up" properly since the flu six weeks ago, still coughs a bit, and "just wants a tonic." You can ask a few apposite questions, weigh her, and, as they say, "sound her lungs" (again a little tact and a spot of firmness; she was not expecting that, and it would be easier to fall in with her expectations). Perhaps there are physical signs, but anyhow you will not be in doubt about the appropriate action; the real difficulty, again, is in "putting it across." Do the right thing in the right way and you may save her months of illness—perhaps save her life; but it was not difficult—at least not technically.

A middle-aged man has a chest pain, "middle and leg," so to speak, regularly on exertion. Well, that is that. He has angina of effort. Probably no physical signs and a normal blood-pressure. He "wonders if it might be indigestion." It may be expedient to ask a cardiologist to do his stuff, but it is not really necessary. You can give the patient the correct diagnosis, the right advice, and the helpful trinitrin just as well as anyone else. The problem of exposition, of estimating courage and administering the dose of truth this particular patient needs and can tolerate, is the difficult part. A cardiologist or his registrar may or may not be able to deal with it better than you can, but his cardiograph will not help him. You have all the equipment you need.

A young or a middle-aged man or woman "always feels so tired" and, like the young girl, requests a tonic. In my experience it is very likely that his or her basic trouble is anxiety or unresolved and unrecognised

*A lecture delivered to final-year students at St. Bartholomew's Hospital, London, on Nov. 1, 1955.

emotional conflict. If he throws in "a weight on the top of the head" this is more than likely. But he must be allowed to tell his tale in full, be questioned a little, be examined as if for life-insurance, and then be talked to with well-chosen words. It will take an hour. You must give him an appointment. But again it is not technically difficult, and even if you do no more than get him to accept a true evaluation of his symptoms you have done him no small service. Perhaps you can even begin to unravel his emotional troubles. Neither a consulting physician nor a neurologist nor a psychiatrist is this man's primary need. He needs a doctor.

Here is someone with a dermatosis—terrified about it as they always are. ("I have a horror of anything to do with the skin, doctor.") You may know it at sight—zoster, tinea cruris or pedis, pityriasis rosea, psoriasis, urticaria, or an obvious contact dermatitis. If so you can immediately do for the patient what he really wants—give it a name and a prognosis, tell him it does not come from dirt or evil living, and, probably, that it is not violently infectious. Treatment is a detail compared with the relieving of his fear. If you do not know it at sight you can still decide whether it asks to be soothed, as it usually does, or, just possibly, to be attacked, and you can act accordingly.

A patient complains of loss of hearing. I know there are aurists and audiometers, but you can get a long way with an otoscope, a tuning-fork, and a whisper; you can deal with wax and even with a blocked eustachian tube, and if there is a discharge you can probably tell otitis media from externa and treat secundum artem.

Much the same goes for vision and the eye, though you do need a few test lenses. With test-type, ophthalmoscope, and plus and minus spheres and cylinders up to two dioptres you could do a lot of diagnosis.

Now meet the patient—very common in the last few years—who has had an attack of vertigo or what, for note-making, I call "subvertigo." He thinks it means "blood-pressure" or an impending stroke. You vet his ears and hearing, look at his fundi, and imitate the last neurologist you may have watched at work, armed only with a pin, a wisp of cotton-wool, and a knee-jerk hammer. Reluctantly you measure his blood-pressure, which is normal. Unless you find some deafness you probably draw blank all round. What then? You can send him to an aurist, a neurologist, or both; but it is 90 to 1 he will "come out by that same door as in he went" and "vestibular disturbance" is all you will get for your pains. Well, you can do that yourself; you can add that it is common, nothing to do with blood-pressure, and does not forebode a stroke, and send him away comforted and with a little phenobarbitone for treatment. You have plenty of reserves if it recurs. You, if he has the sense to know it, are the man he needs.

One more type—generally youngish and male—the one who "just wants you to overhaul him, doctor, because, you see, he is one of those who believes that prevention is better than cure." What he means is that he is afraid he has cancer or heart-disease and thinks you can find out with your stethoscope. My sympathy with him is limited, though he represents a powerful line of highbrow thought; he ought to make a clean breast of his fears; but we must take him as we find him, and if he is not to be sent empty away he needs either a general practitioner or the whole armoury of a large modern hospital, and as the hospital, quite reasonably, cannot be bothered the G.P. must—and can—cope.

Is that enough on these points? Are you satisfied (*a*) that there is nothing inherently absurd in offering to receive all comers and do something appropriate for each and all? and (*b*) that general practice is not all trivialities? How could it be, unless indeed the practitioner makes it so by instantly transferring everything else to hospitals or specialists?

Continuous Care

But now for another bit of essence—continuous care of the patient. Instead of potential doctors, can you now turn yourselves into potential patients? Can you, by a prodigious exercise of the imagination, cease to be healthy young people at the securest time of life, conscious of all the resources of medicine at your elbow, and become instead ordinary, extramural citizens—parents of young children, working men or women holding down a job, ageing or old people, perhaps living alone, and then find yourselves or your children taken ill, with some pain or disorder that worries, disables, or frightens you? What is your chief need? Surely a medical friend and adviser: someone ready not only to listen, examine, discuss, and advise but to remain in charge and see the thing through; not so much to treat you (you may need a surgeon for that) as to look after you—or your wife or child—and to continue to do so.

This is the peculiar—the quite unique—function of the general practitioner. In all this vast medical edifice we have erected—hospitals, clinics, "units," multilocular hives of specialism (like the one north of Cavendish Square), it is no-one's primary business to look after the patient.

You will be surprised, if you do go into practice, to find how real a fact this is. I well recall how in late student or resident days it seemed to me that this place here was full of glorious light, year after year dispensing medical aid with a free and generous hand to the sick poor, wise, kind, almost perfect, while outside was a dark, unenlightened world in which, dimly seen, there groped the "doctors" who sent up such patients as did not just walk in. Their diagnoses were wrong as a matter of course, and their one aim in life was to "shift snags"—so it seemed then.

Probably to you both the light and the darkness seem less intense, and you may be more conscious than I was of the G.P. and his work; but do you never, in your hearts, congratulate the patient of the hospital because now, at last, he is in safe hands? This great institution has taken charge of him and will see him through; he has only to lie back and do what he is told.

You will be astonished, as I was myself, to find how different, how almost opposite, things look from the practitioner end.

Some things the hospitals do quite admirably. They will unravel certain kinds of diagnostic tangles—the kinds that require esoteric investigations and tests. They will perform surgical miracles; and if the patient's trouble is of the right kind—organic, preferably rare, and amenable to physical treatment—then diagnosed and treated the patient will be and he will come home impressed and grateful. But if his trouble is not of this kind, if the strands of the diagnostic tangle derive equally from constitution, personality, environment, and infection or trauma—if the patient, the whole man, must be investigated and treated—then, I am sorry to say, sometimes the hospital will not even try. Covering its failure with some phrase like "strong functional element" or "considerable hysterical overlay" it turns the patient out undiagnosed and unrelieved. The general practitioner must take the whole job on.

Even the first class of patient is not always as pleased as you might hope. "They were all very kind," he says, "but of course they don't tell you anything, and there was no-one I could ask. Don't you think they ought to tell you something, doctor? I suppose they have told *you*?" Let's hope they have or very soon will, and that they will not do the very worst possible—tell the patient a comforting untruth without consulting with or even informing his doctor. For to him the patient will return. He will, he must, continue to be the man in charge. On him devolves the duty of explaining what has been discovered, advised, or done and what is to be looked for.

No-one can relieve him of the burden of deciding what the patient shall be told or of translating into practical terms the hospital's or specialist's therapeutic recommendations. His job it is to "comfort and relieve them according to their several necessities" and to go on doing so to the end of the chapter. Taking care and continuous care of the patient are jobs which must be done by the general practitioner if they are to be done at all. Of course they need not be done at all. If present trends continue the time may come when they are not. That may not disturb the death-rate; but something good will have been lost, many citizens will find themselves very much at sea, and the Hippocratic Art will have been dealt an almost mortal blow.

Continuous care of the family is an extension of continuous care of the patient, and I am sure it is the highest, best, and most satisfying manifestation of general practice. When someone writes to you and says "will you look after us and be our doctor?" you know you are really a doctor, and if that request leaves you quite cold—well, you had better drift into a specialty.

I will not dilate on family doctoring. But I should like to glance again at continuous care. Turn round once more and be the doctor. You are the man in charge. Consultants and specialists come and go; you remain. "Now that they have all gone," said the wife of a sick medical man when the captains and the kings had departed after a not very fruitful consultation, "now that they have all gone, what do *you* think?" You carry the burden, but you find you are not only the court of first instance but, very often, the Court of Appeal.

Much lip service is paid to this conception of continuous care, but in practice our planners and administrators make it more and more difficult. Clinics innumerable, well-intentioned but blinkered, tempt both patient and doctor to make the care partial or discontinuous. Personal, continuous care was the very substance of that unfashionable institution—private practice. It is, to put it mildly, hard to square with the conception of group practice. A group of colonels cannot command a battalion, and, though general or family practice can be conducted in partnership, it is, to my mind, in essence personal. If it ceases to be personal, then practice, as I have experienced and understood it, will have altogether ceased to be.

The essentials, then, of general practice, as I see it, are that it is general, not knowing the limitations of a specialty but concerned with the whole man and with the whole field of medicine; that it involves continuous care; and that it is personal, both in the sense of not being impersonal and in the sense of being if not quite a one-man at least a whole-man job.

Penalties and Rewards

What—still sticking to generalities—are its penalties and its rewards? Its chief penalty is the counterpart of its continuousness and its personalness—continuing and personal responsibility. Partnerships and the like can do much to ease the burden, but in essence it must be accepted. Holidays are holidays and every doctor should have them, but if you accept the conception of practice I have been setting before you I think it is clear that six-hour days and five-day weeks are not applicable to it. By and large the G.P. cannot be off duty in his own home. Many kinds of specialist can. Rewards? Well, one of them is pay, in coin of the realm—a shocking thing to mention here! But I want to mention it for a particular reason. The practice of medicine is an art—for Hippocrates *the* Art. All artists work partly for money. Shakespeare wrote his plays, Bach composed his Brandenburg concertos, Michael Angelo got his David out of that lump of marble partly for money; but none of them got very rich. Many lesser artists have made much more money. I want to suggest that anyone who wants to practise medicine in mental comfort must decide early, consciously, and definitely which he is going to put first—his art or his income. If he puts his art first he will be a better doctor, if his income he will be a richer man; but if he does not decide he will get into small ethical tangles every day and may get into a big one, like the foolish young man in that queer book *The Citadel*.

Let's assume you put the art first and make a livelihood, what other rewards? The thanks of grateful patients and the sense of serving the community. Very good, but subtract the searing ingratitudes of the ungrateful, the losing battle with degeneration and death, and the doubts which must assail us all about the community-value of medicine; and the balance is, perhaps, not so very great. See also the writings of that entertaining cynic, Richard Gordon.

The one lasting, dependable, yet immaterial reward is the work itself—the practice of clinical medicine. Richard Gordon is half right. Good doctors, I think you will find, are seldom dedicated to the service of humanity; but, though they do not say so, they are dedicated to the practice of medicine.

Suppose all this has not put you quite off; suppose a few of you think not of drifting into general practice but of pursuing it as wholeheartedly as others pursue surgery, what can you do about it now? First make sure you can examine your patients. Make to yourselves friends in the special departments and compel them to teach you to use all those scopes and specula so that you can see, easily and for certain, the fundus oculi, the ear-drums, the vocal cords, the nasal passages, the rectal mucosa, and the cervix uteri, and tell whether what you see is normal or abnormal. Learn to do with your hands as many useful things as possible.

Take a new look at the hospital and see it full not of "cases" or "clinical material" but of sick persons—people in trouble, husbands, wives, fathers, mothers, children, people with homes and jobs and lives of their own. Get to know a few if you can and try your hand at the difficult task of putting medicine accurately into the vernacular. They are burning to ask questions. They dare not ask your seniors. They might ask you and tell you something in return.

Mind and Brain

Finally, if I may fly high for a moment, I cannot see how you can practise medicine on a basis of reason unless you first formulate, for your private use, some sort of philosophy of life and in particular decide whether you believe in "Man, a machine" or "Man, not a machine." Either belief is tenable, and I am not going to argue about their truth; but it must be very difficult to practise on the basis of the first. Practice is easier if you hold that we all have a mind which is not the brain, nor yet a function or secretion of it, but a separate entity. You need not attempt to define it closely so long as you are prepared to assume its existence quite frankly, call it by its name, speak of it to your patients (who have never troubled to think whether they believe in it or not), and assume that it has its own primary disorders which express themselves in bodily symptoms.

If the word "brain," which should mean that thing inside the skull, is used for "intellect" or "sanity," and the word "nerves," which should mean—well, *nerves* (motor, sensory, or mixed), is used to mean "anxiety," "fear," "temperament," or the state of being in love, then rational dealing with the whole vast class of psychosomatic disorders becomes impossible and the confusion in the mind of the patient is very likely to spread to the doctor.

Recognise the mind, call it by its name, put it, as it were, on the table between you and the patient, and you can begin to think and talk good sense about these things.

You can learn your psychology and psychiatry from the professors or from the poets, the novelists, the Bible, and your own experience, or you can mix them all; but you must not suppose that Psyche is an illusion, an invention of the psychologists, or that you can afford to neglect her. She has a finger—sometimes a fist—in every medical pie.

There is now a whole shelf-ful of books about general practice for those intending to enter it—how to get in and what to do when you are there—and I will not try to choose between them. But most germain to my present theme is Dr. A. E. Clark-Kennedy's *Medicine in its Human Setting* which, besides telling you what practice is, could help you to pass your finals.

AN EXAMINATION OF THE FINAL EXAMINATION IN MEDICINE *

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IN order to test the efficacy of the methods used in the final examination in medicine at the Queen's University of Belfast, certain investigations were carried out during the years 1953–55, and these are reported here. Most of the studies were made under working conditions, and the students and, where possible, the examiners were unaware that observations were being made.

Composition of the Examination

At this university, in the final medicine examination the subjects of medicine and child health are examined together by means of written papers, clinical exercises, and orals. There is at least one external examiner for each of these subjects, and they, together with the professors of child health and medicine, are responsible for setting and marking the papers. These four, together with six other examiners, conduct the clinical and oral parts of the examination, and at each of these "interview" sections there are two examiners per candidate. A quarter of the papers is devoted to child health and the rest to medicine. In none of the "interview" parts of the examination is it possible to distinguish between the two subjects, because all examiners question in both. The marks allocated are shown in table I.

TABLE I—MARKS ALLOCATED FOR PARTS OF THE EXAMINATION

Part of examination	Marks (%)
Papers	50
Major case	20
Minor cases	15
Clinical pathology	5
Oral	10

Although the marks of the clinical examination make up only 35% of the total, they have always been the most important part of the examination, because the students must obtain a clinical pass, regardless of the other results.

The Papers

When the investigations started, the practice was to set two three-hour papers of four essay-type questions each. During the study, certain alterations were made which will become apparent. There is usually a little over a week between the writing of the papers and the "clinicals," and the examiners mark the answers at this time between other duties. The external examiners often mark their questions while the clinicals are in progress. All the marks in the medicine questions were allocated by the system of "impression." The questions in child health have not been studied.

In order to test the efficiency of marking, certain of my co-examiners and I have re-marked answers, and the marks have been analysed in several ways.

Table II shows the marks allocated in a typical essay-type question of length four questions per three hours. Here, a single examiner has re-marked the scripts after an interval of several weeks. In this and other similar studies the examination books were not defaced by the examiner, and the marks were recorded separately.

If we compare the first and second mark for each student, we find that quite often there is no difference between them, and in most cases where there is a difference it is quite small. In fact, the average difference is only 0·9% if we take the sign into account, and 6·2% if we neglect the direction of the difference. All this might suggest that the marking is reasonably efficient, but further examination of the same marks shows that this is not so. For example, in table III the data from table II have been rearranged to show the broad separation into failures and passes assuming a pass-mark of 50%.

We now see that 8 students out of 30 changed from pass to fail, or fail to pass, on re-marking. Even on this gross criterion, the question is very inefficient in distinguishing between students.

TABLE II—RE-MARKING AN ESSAY-TYPE QUESTION

Markings			Markings		
1st	2nd	Diff.	1st	2nd	Diff.
50	40	−10	35	40	+ 5
45	40	− 5	45	45	0
55	55	0	45	45	0
50	50	0	35	55	+20
55	60	+ 5	60	60	0
50	65	+15	60	60	0
55	55	0	55	55	0
45	55	+10	50	60	+10
35	40	+ 5	60	50	−10
50	40	−10	55	55	0
55	60	+ 5	55	50	− 5
45	65	+20	45	35	−10
50	50	0	55	55	0
35	45	+10	50	40	−10
60	50	−10	55	45	−10

Mean 1st mark, 49·8. Mean difference, 6·2.
Mean 2nd mark, 50·7. Range marks, 35–65.

There are several more informative techniques for examining the extent of the agreement between the two markings (or between the marks of two or more different examiners). When a class of students has written a paper and the answers are marked and re-marked either by the same or by other examiners, there are two sources of variation in the marks of the class as a whole, differences between students and variation due to examiners or examiner error. There are three types of examiner error. They are:

1. Differences in standard, shown by a difference between the mean marks given at each marking. For example, the mean mark on one occasion may be 65% and on another 45%. This type of error is not serious, because it is easily detected

TABLE III—RE-MARKING AN ESSAY-TYPE QUESTION (FOUR QUESTIONS IN THREE HOURS)

		2nd marking	
		Fail	Pass
1st marking	Pass	4	15
	Fail	7	4

* Based on an inaugural lecture delivered at the Queen's University of Belfast on Nov. 2, 1955.

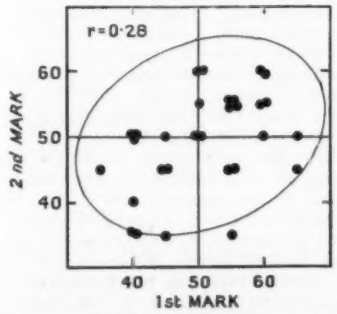

Fig. 1—Examiner A's first marks plotted against his second marks on re-marking long essay question.

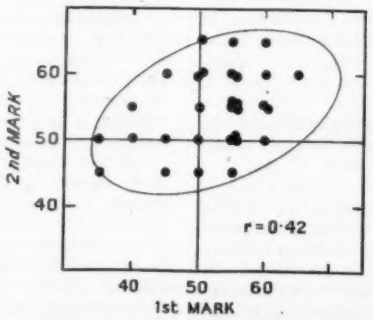

Fig. 2—Examiner B's first marks plotted against his second marks on re-marking question shown in fig. 1.

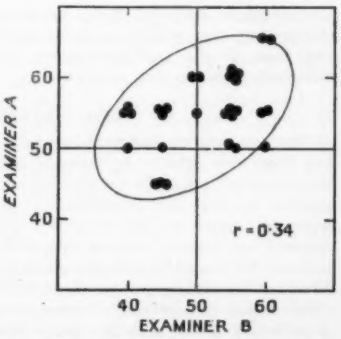

Fig. 3—Mean of examiner A's two marks plotted against mean of examiner B's two marks on question shown in figs. 1 and 2.

In these figures the ellipses are calculated to include 95% of the observations.

and the marks may be adjusted to a common mean. Failure to adjust the marks will influence the pass-rate.

2. Differences in range or, more properly, standard deviation of marks. For example, on one occasion the marks may range from say 45% to 65%, while on another they may range from 10% to 90%. This, too, is not a serious type of error, because again the marks may be adjusted this time to a common standard deviation. Failure to adjust the marks will result in the wide-range markers' results carrying more weight in the final result than the narrow-range markers'. (Most medical examiners tend to mark within a range of from 40–45% to 60–65%, but as they are usually alike in this it does not influence the final result.)

3. Other differences, or random errors.

Clearly, in any examination it is desirable that the only variation in marks should arise from the differences between students in their ability to answer the question. Ideally, the component of variance attributable to students' efforts should be the only component; if others exist, the variance attributable to the student component, expressed as a percentage of that attributed to all components combined, is an index of how nearly the ideal is approached.

Two methods of estimation of such an index seem profitable.

(*a*) The first makes use of the analysis of variance technique. Here a classification of marks by two factors is possible—namely, by markings and by students. From this, estimates of three components of variance can be made. These are the variance attributed to the student effect, the examiner effect, and a residual or interaction between students and examiners. From these estimates the student component can be expressed as a percentage of the total to give an index of the type required. This index makes no distinction between the three types of error (1, 2, and 3 above), and is, therefore, an over-all assessment of examiner error.

(*b*) The second is the correlation coefficient between the different series of marks, and this index isolates the third type of error. It is independent of differences in the means and standard deviation of marks between different markings. It gives the same information as an analysis of variance of the marks after adjustment to a common mean and standard deviation. Such adjusted marks are referred to as standard marks (Gulliksen 1950, among others). Analysis of variance, using the adjusted marks, shows that with a reasonable number of students, the percentage of the total variance attributable to the student component is closely estimated by the formula $r \times 100$, where r is the value of the correlation coefficient (E. Cheeseman, personal communication). The correlation coefficient is, therefore, a satisfactory method of assessing the important examiners' random error (3 above).

With these considerations in mind, let us examine the marks further. In fig. 1 the marks from table II are plotted in the form of a scatter diagram and the correlation coefficient "r" is shown. The value of "r" is low, indicating very poor agreement between the first and second marking. Indeed, it does not differ significantly from zero correlation or a completely random allocation of marks ($P>0·1$). The inefficiency of marking is not limited to one examiner. The same question was marked and re-marked by a second examiner (fig. 2). This examiner is somewhat more consistent in his marking than the other, and the value for "r" is $+0·42$ ($0·05>P>0·02$) and significant, but even so his accuracy is very poor. The agreement between the mean marks of the two examiners is shown in fig. 3. The agreement is very poor and not statistically significant.

An analysis of variance carried out on the crude marks allocated for this question by both examiners shows that the student variance is only 19% of the total. It is, therefore, perfectly clear that this question was of practically no use in distinguishing between students. A random allocation of marks would have been nearly as useful.

Effect of Length of Question on Marking Efficiency

In order to show whether other questions are more or less efficient tests of the student, further long questions were studied. Also, to investigate the effect of length of questions on marking efficiency, a number of shorter questions were set, marked, and re-marked in the same way. In addition, two papers of the multiple-choice type were used. The results are shown in table IV.

It is clear from this table that essay questions of the usual length of four questions per three hours are very

TABLE IV—ACCURACY OF MARKING OF QUESTIONS OF DIFFERENT LENGTH

Question length	Single examiner re-marking		Between examiners	
	r	% variance due students on analysis of variance of crude marks	r	% variance due students on analysis of variance of crude marks
4 in 3 hr.	0·42* 0·39* 0·28† 0·44‡	39 38 28 38	0·63*‡ 0·34*† 0·43*‡	19
8 in 3 hr.	0·49* 0·40†	46 39	0·40*‡	28
16 in 3 hr.	0·76* 0·86‡ 0·61*	66 83 36	0·79*‡	71
32 in 3 hr.	0·67*	66		
	1·00	100	1·00	100

* = Examiner A. † = Examiner B. ‡ = Examiner C.

inefficient in distinguishing between students, but that shortening the questions increases their efficiency. In the case of the multiple-choice questions, there is no examiner error in the marking.

DISCUSSION

The marking of essays in subjects other than medicine has been repeatedly studied and the results are broadly in agreement with the present investigation. I have been unable to find any comparable study of the effect of question length on the accuracy of marking, and indeed absence of information on this point makes direct comparison between this and previous investigations difficult. Frequently, the length of the answers is not stated. In other cases the length of time available to answer the question is given, but the candidates have been schoolchildren who would be expected to write shorter answers than university students.

Differences in design of investigations also make comparison difficult. A common approach has been to select a small number of essays and have these marked by a relatively large number of examiners. This is open to the objection that the element of boredom in the examiner is largely eliminated. Both this factor and the probably short answers would tend to favour accurate marking, but despite this it is almost universally agreed that the marking of essays is highly inefficient.

Comprehensive studies of this problem were carried out following an International Conference on Examinations in 1931. Committees were set up in various countries and reported separately. The British investigations are reported by Hartog and Rhodes (1935, 1936) and Hartog (1941). In some of these studies a somewhat different statistical approach was used from that employed in the present one, but the general conclusions were the same. There is a very serious element of examiner error in the marking of scripts in many subjects. In certain cases a direct comparison with the present study is possible.

The inter-examiner correlations in marking history honours scripts ranged from −0·14 to +0·85, with an average of +0·44 (Hartog and Rhodes 1936).

The inter-examiner correlations reported by the French committee (Hartog and Rhodes 1935) averaged +0·429 in philosophy and +0·888 in mathematics.

As a result of these international investigations, various attempts have been made to improve marking efficiency by employing different methods of marking. Ideal answers have been prepared by examiners and marks allocated for points made by the students (analytical method), and various other techniques used without success. In fact, ideal answers circulated to other examiners have received marks from a fail to an honours pass. Cast (1940) had an essay question marked and re-marked by ten different examiners in four different ways, including the analytical method and the method of impression, which is simply reading the answer and allocating a mark. The correlations ranged from +0·009 to +0·779 for the different examiners, and the average correlations between examiners for the four different methods of marking were +0·492 for the analytical method, +0·485 for the impression method, and +0·479 and +0·439 for the other two methods. Finlayson (1951) also found the analytical method to be slightly better than the impression method, but the differences were not significant. The extra labour involved in using more elaborate methods of marking than the impression method would not seem to be worth while.

The most undesirable, and unfortunately most prevallent, marking error is inconsistency, and it is best shown by the correlation coefficient. If long questions are used there would seem to be only one way of compensating for it—that is to have each paper marked by a large number of examiners. The over-all consistency would be expected to improve roughly in proportion to the square-root of the number of examiners. Finlayson (1951) found that four examiners could achieve a consistency of r=0·9 on a half-hour school essay, but with longer answers it is likely that a very much larger number of examiners would be required to achieve as good a result. Clearly, the method is impractical when the individual examiners' consistency is as low as r=0·5 or less.

All this suggests that the essay paper, as at present used, should be discarded or considerably modified by setting questions that require answers which do not exceed a few lines in length. Even this leaves an element of examiner error, and I believe that more extensive use should be made of the multiple-choice technique. It is a method which has largely replaced essay papers in examinations in most medical schools in the United States of America, where it is also used in State and National Board examinations. Experience there has shown that it is a better test than essay papers. For example, Cowles and Hubbard (1952) showed that in the National Board's examinations in pharmacology and internal medicine, at a stage when half the examination was of the multiple-choice type and the other half of the essay type, the marks of the former correlated better with the opinions of the various medical schools than those of the essay questions.

Multiple-choice questions differ from essay questions in that the examinee is given the choice of several answers and must select one. The use of this type of paper is discussed by Sinclair (1955) and Vernon (1940). The following is an example of a question of this type, but considerable variation in the style of question is possible :

> You are called at midnight to a previously well-balanced diabetic patient who has been receiving 20 units of insulin twice daily. The patient is unconscious. There are no abnormal neurological signs except for extensor plantar responses. Urine passed 3 hours previously contains glucose ++ and gives a faintly positive Rothera's test. The correct procedure is :
>
> 1. Inject 40 units of insulin.
> 2. Inject 50 g. glucose intravenously.
> 3. Do a lumbar puncture to see if the cerebrospinal fluid contains blood.
> 4. Take a sample of blood for glucose estimation before deciding on treatment.

Three possible diagnoses are hinted at—diabetic coma, hypoglycæmic coma, and subarachnoid hæmorrhage. It is clear that both factual knowledge and the power to make deductions from these facts are required to arrive at the correct answer.

There are several advantages in the use of the multiple-choice technique. Examiners' marking error is eliminated entirely, as anybody with a key can mark the paper. It is possible to set a large number of questions per paper, and so obtain a far more extensive sample of the student's knowledge than can be done by other means. By setting the same paper at more than one school a comparison of standards is possible, and finally, it is possible to test both factual knowledge and deduction.

There are objections to this type of paper. It is extremely difficult and time-consuming to set, but this can be partly overcome by collaboration between examiners at different schools. It is said that once a pool of 5000 well-tried questions has been collected, no more need be prepared. If the papers are not published after the examination, the same questions may be re-cycled in different examinations in a random manner.

It has been said that the use of this type of paper will cause the students to lose what little ability they have to write English. Perhaps this is true. At all events, if it is necessary for them to write English well—and I believe it is—then this ability should be tested more directly by appropriate methods.

TABLE V—CORRELATIONS BETWEEN PAIRED EXAMINERS (AB AND CD) AT INTERVIEW EXAMINATION, JUNE, 1954

Part of examination	Correlation	
	AB	CD
Major case	0·69	0·51
Minor cases	0·82	0·89
Oral	0·83	0·74

Average = 0·74.

Interview Part of Examination

The efficiency of the interview part of the examination (clinicals and orals) has been tested in much the same way as the papers, but there is an added complication. In the case of the papers the questions are the same for all students, but here this is not possible. Each student examines a different patient for his major case, and even in the minor cases and orals it is not possible to standardise the questions asked, even where one patient is examined by several students. For these reasons, it is not possible to design a suitable analysis to isolate the three components of student, examiner, and patient variance. To obtain some measure of the examiners' contribution to the variation in marks, the two examiners responsible for each part of the interview examinations were asked to allocate their marks independently and to try, as far as possible, to avoid influencing one another by word or deed. The correlations between the marks of each pair of examiners were then calculated and are shown in table v.

These correlations are encouragingly high, and suggest a fair degree of agreement between examiners. However, they do not necessarily mean that the examiners' agreed decision is the correct one. Different pairs of examiners might reach different conclusions. In order to test this, the correlations between different parts of the interview examination were calculated. Different pairs of examiners were involved for each student at each part. The results are shown in table vi.

There is moderately good agreement between the two sets of examiners in the major and minor cases, as is shown by the average r_{Mm}=0·590. It therefore seems likely that the complication of different patients being examined by different students is not seriously affecting the results.

On the other hand, we find inconsistent and rather poor correlations between the major case, and the oral and minor cases, and the oral (averages r_{MO}=0·344 and r_{mO}=0·363). At first sight, this might seem undesirable, but there is a possible explanation. The orals cannot be considered as independent of the rest of the examination. Before candidates are examined in the orals, the rest of their marks are studied, and if a student has failed on any one section of the examination, or on total marks is near a fail or an honours pass, the examiners are told of this. At the interview, they decide whether previous lapses or distinctions are real, and award an artificial, compensating mark, based on their interview and on information on the student's previous record. Thus, we would not expect to find high correlations between the orals and other parts of the examination.

TABLE VI—CORRELATIONS BETWEEN "INTERVIEW" PARTS OF THE EXAMINATION

Correlations	Different examinations			Average
	Year	June	Dec.	
r_{Mm}	1952		0·402	0·590
	1953	0·743	0·550	
	1954	0·733	0·486	
	1955	0·625		
r_{MO}	1952		0·512	0·344
	1953	0·439	0·130	
	1954	0·133	0·670	
	1955	0·182		
r_{mO}	1952		0·748	0·363
	1953	0·138	0·680	
	1954	0·230	0·013	
	1955	0·368		

M = Major case. m = Minor cases. O = oral.

DISCUSSION

We may summarise the results of the interview examinations as follows. There is good agreement between two examiners examining the same candidate on the same patient, and reasonably good agreement between pairs of examiners examining the student on different patients. An investigation of interview examinations (Hartog and Rhodes 1935) showed similar good agreement between individual examiners of an examining board.

Relations of Different Parts of Examination

Having established that the examiners' marking error is high in the traditional papers, reasonably low in the interview examinations, and absent in the multiple-choice papers, let us now examine the correlations between these three (see table vii).

Some findings are to be expected. As the traditional paper (here four questions per three hours) is a bad test, it is not surprising to find that it correlates poorly with the interviews (r CT) and with the multiple choice questions (r TQ).

TABLE VII—CORRELATIONS BETWEEN DIFFERENT PARTS OF EXAMINATION

Group of students	Parts of examination	Correlation (r)	
		Dec., 1954	June, 1955
All	CQ	+0·123	+0·344
	CT	+0·358	
	TQ	+0·062	
18 random	CQ		+0·358
	CT		+0·360
	TQ		+0·268

C = Total of major case, minor case, oral, and clinical pathology.
T = Traditional paper (essay questions).
Q = Multiple-choice paper.

It is, however, surprising to find such poor correlations between the two parts of the examination with the least marking error—the multiple-choice paper and the total interviews which are largely made up of clinical marks (r CQ). The multiple-choice paper, which is a test of factual knowledge and deduction, should correlate well with the interview part of the examination, if the latter tests the same attributes. The absence of close correlation suggests that knowledge and deduction may play only a small part in the clinicals. This raises the question as to what the clinicals and orals do test.

I would suggest that there are three groups of factors which might influence the examiner:

1. Factual knowledge and the ability to make deductions from these facts.

2. The ability to elicit the patient's history and detect abnormal physical signs.

3. Some non-medical factor or factors linked with personality or intelligence.

From the appropriate correlations, we have seen that the first is unlikely to be an important influence. The importance of the second is more difficult to assess, and I have not yet attempted to do this. I have, however, carried out a simple pilot study to assess the importance of non-medical factors. 18 students were selected at random from the June, 1955, final-year class, and were interviewed by Prof. A. McBeath, emeritus professor of

TABLE VIII—CORRELATIONS OF PROFESSOR MCBEATH'S ESTIMATES WITH DIFFERENT PARTS OF THE EXAMINATION

Aspect	Trad. paper	Mult. choice paper	Major case	Minor case	Oral	Total interview	Total mark
Intelligence ..	0·12	0·10	0·29	0·12	0·02	0·27	0·27
Confidence ..	0·13	0·02	0·16	0·23	−0·05	0·27	0·33
Expression ..	0·27	0·28	0·41	0·21	0·11	0·39	0·45*
Over-all ..	0·13	0·09	0·30	0·32	0·24	0·31	0·29

*P < 0·05.

logic of this university. I told Professor McBeath that I suspected that some factor or factors that make up personality might be influencing the results, and asked him to assess the students without reference to our own knowledge of them. Unfortunately, the time available for interview was only about ten minutes per student. Professor McBeath chose to allot marks for intelligence, for confidence, for the power of expression, and for an over-all impression. These various assessments were then correlated with the marks of different parts of the examination, and the results are shown in table VIII.

Most of the correlations were low and statistically insignificant, but there is some consistency of pattern which suggests that, had we studied a larger group of students, significant results would have been found for more of the correlations. Professor McBeath's most efficient estimate of the marks of the different parts of the examination is his estimate of "expression." In the case of the total mark in medicine, the correlation with "expression" was +0·45, and significant at the 0·05 probability level, which suggests that the ability to express oneself may be important in passing the final examination.

DISCUSSION

Few firm conclusions can be drawn from this section of the investigation. Its main importance lies in its having demonstrated the need for further work.

There is some evidence to suggest that factual knowledge may not be very important in the clinical examinations, but that some factor or factors in personality may play a part. It is important that we should establish what skills or personal attributes influence the examiner, so that we may assess them more efficiently and know what we are assessing. Probably it is as important that a doctor should have a suitable personality as it is for him to be in possession of factual knowledge. I believe that until we have further information on these matters, we should not alter the present system of interview examinations.

Summary

The final medicine examination at the Queen's University of Belfast has been investigated. The most important findings are as follows:

There is a considerable element of error in the marking of long essay questions, but this error diminishes progressively as the questions are shortened.

It is recommended that more use should be made of the multiple-choice technique of examining, which eliminates marking error.

There is reasonably good agreement between examiners in the clinical and oral parts of the examination, but there are doubts as to what they agree on. It appears likely that factors unconnected with medical knowledge may play an important part in determining success in this part of the examination. Until further information is available on such factors, these interview examinations should not be changed.

I am most grateful to all who coöperated with me in this investigation. In particular, I would thank Dr. E. Cheeseman and Mr. S. J. Kilpatrick, of the department of social and preventive medicine, who have given invaluable help with the statistical approach. For the purpose of this study, Dr. Cheeseman developed an interesting theoretical account of the relation of the correlation coefficient to the analysis of variance. I would also mention, in particular, Professor McBeath, who interviewed the students for me, and Professor McMichael, my external examiner. I am most grateful to all the other examiners and to the students who willingly subjected themselves to the interview experiment.

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HOSPITAL TRAINING AS PREPARATION FOR GENERAL PRACTICE

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CLINICAL training begins in hospital, and this early experience profoundly influences the efficiency and outlook of the family doctor. I assess here from records collected at the time: (*a*) the differences between clinical work in hospital and that subsequently encountered in general practice; and (*b*) the ways in which early hospital experience influences the development of a family doctor. The suggestions made are intended, not as criticisms of the present curriculum, but to indicate ways in which my own training and development into a general practitioner could have been helped and improved.

It is thirteen years (excluding Naval service) since I first entered hospital as a clinical student. Of this time, half has been spent in hospital and half in general practice. Throughout these years I have kept records of nearly every patient whom I have had under my care. For the period of undergraduate training these records also include most of the cases that I saw at clinical demonstrations and ward rounds.

Hospital and General Practice: a Comparison

It is generally admitted that the clinical material in hospitals differs greatly from that in family practice, but I have often wondered whether most medical schools realise how great is the difference. The accompanying figures, which are based on my own experience, show the extent and quality of this difference.

MATERIAL AND METHOD

The material analysed consists of:

(1) 318 "incidents of sickness" seen on ward rounds and at demonstrations during three years in hospital as a student.

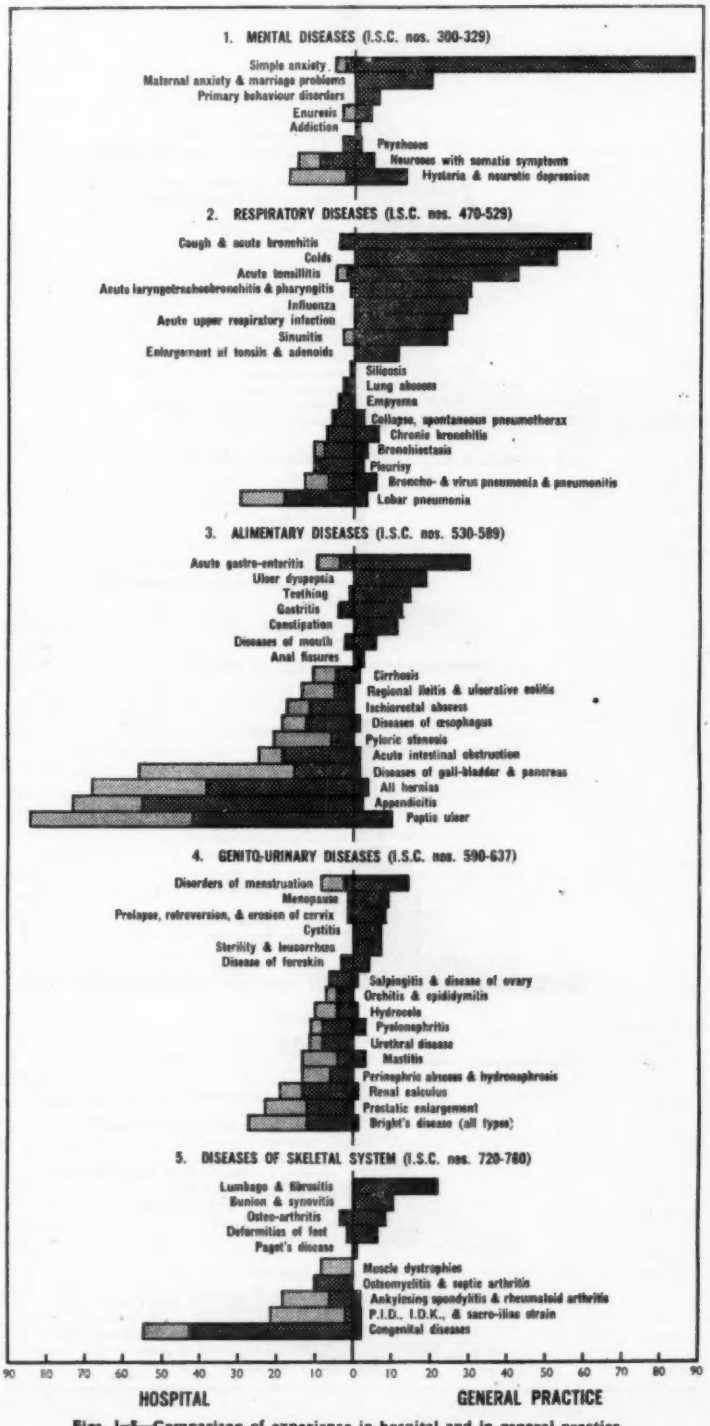
(2) 986 "incidents of sickness" under my care as a resident houseman in three jobs (as house-surgeon, house-physician, and children's house-physician). These cases also include 75 post-mortem examinations during a year as pathology registrar.

(3) 2500 "incidents of sickness" during a year in general practice on a housing estate in an industrial area.

In each group records were kept of history and examination with possible and probable diagnoses. From these data I have compiled figs. 1–11, which show the difference between the three groups. These figures have been built up as follows:

In each group the "morbidity-rate" per 1000 incidents of disease has been calculated. The total diseases seen were then split up into "system groups" according to the International Classification. In each figure all cases seen in general practice are on the right side of the vertical axis, while all cases seen in hospital are on the left. The position of a disease in any of the figures depends on whether it is predominantly a disease

of general practice or of hospital and the extent to which it predominates. Thus diseases seen mostly in general practice occupy the top right-hand part, and diseases met with chiefly in hospital occupy the bottom left-hand portion.



Figs. 1–5—Comparison of experience in hospital and in general practice. Light stippling = student experience.

RESULTS

Figs. 1–6 represent the major portion of a family doctor's clinical work, covering all mental illness, all diseases of respiratory, gastro-intestinal, genito-urinary, and skeletal systems, and bacterial and virus diseases. All these figures show clearly how widely hospital experience differs from that in general practice.

As regards mental disease (fig. 1), it is characteristic that the G.P.'s biggest problem—"simple anxiety"—was not clearly defined in my student and hospital notes and does not even have a proper category in the International Classification of Disease. This term "simple anxiety" is used to cover all patients with normal (adequate) personalities who are afraid or who have symptoms associated with fear (palpitation, jumpiness, air-hunger, &c.); the precipitating fear in most cases is usually openly admitted (e.g., of cancer, blood-pressure, tuberculosis, or pregnancy) and requires no refined psychological technique for its discovery. History, examination, and reassurance of these patients is a most important part of the family doctor's job. My student records fail to show any evidence of this problem or how to tackle it.

At first in general practice I was irritated by the amount of "so-called neurosis" and it took several years to overcome this irritation and develop ways of helping patients with complaints coloured by anxiety. I believe that this difficulty was a direct result of a training which had failed to prepare me for this problem.

Figs. 7–10 cover all malignant, neurological, and cardiovascular disease, plus a miscellaneous group of metabolic, endocrine, and blood disorders. A different pattern emerges, because these diseases are more uniformly serious and therefore cases tend to be collected in hospital; and if anything, hospital training tends to over-emphasise the importance of these diseases. In fact a third (96) of the cases demonstrated to me on student ward rounds consisted of almost untreatable malignant or neurological disease. This perhaps explains why, like many other doctors, I am needlessly excited by finding a case of, for example, cancer or motor-neurone disease.

Only in the miscellaneous group (fig. 11) is there an apparent similarity between hospital and general practice. The similarity, which is "apparent" only, is the result of including many different disabilities under general headings. Thus if "fractures and sprains" is split up into its two parts, very few of the sprains will be found in hospital while the family doctor sees only a few fractures.

There are two important omissions from this material:

1. No obstetric cases have been included because the cases seen in hospital and general practice were sufficiently similar for the former to provide a reasonable preparation for the latter. Thus approximately 110 normal deliveries were seen during the hospital period, while 50 normal deliveries were done in one year of general practice. The abnormal deliveries seen in general practice, like the serious pathological diseases, were of course even more adequately covered by the hospital experience. It is, however, important to realise that these hospital figures include work done in a resident obstetric house job.

2. No cases of ear, nose, and throat, eye, or skin disease are shown during the hospital period. Apparently I did not, as a student, consider them sufficiently important. It is of interest to find this remarkable gap in just those subjects which might have been very useful in general practice. The reason was, I think, that these subjects had been tacked on to the main course and were always regarded as extras of less importance. Unfortunately I never obtained any experience in these specialties as a houseman and the result has been a gap in my knowledge which I always regret.

Discussion

The analysed material demonstrates clearly two main points:

1. That the average hospital experience gives the newly qualified G.P. a good understanding of the serious disease he is likely to see in practice. If anything, the emphasis it places on these diseases is so great that the young G.P. may be perturbed by the necessity of dealing with less serious disease.

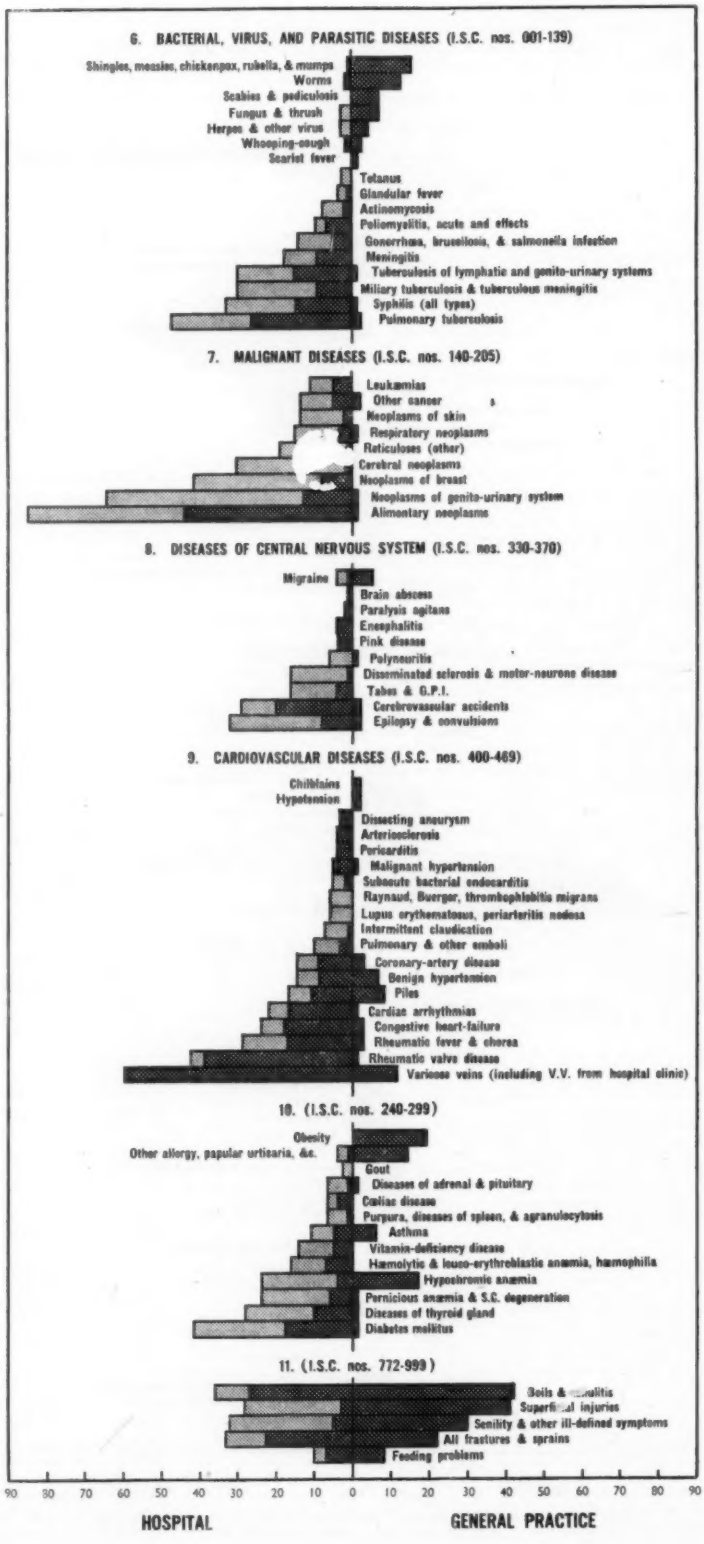
2. That a very large proportion of the disorders (75% in my case) dealt with by a family doctor is never seen in hospital at all.

The chief effects of these two factors on the potential family doctor can be summarised as follows:

1. *Lack of confidence arising from uncertainty.*—The newly qualified G.P. is probably acutely aware that he has never cared for a child with measles before, and is unable when talking with the parents to speak with the authority that gives confidence. If this is his first contact with such parents it may be a long time before he can give them confidence again.

2. *Mistakes due to ignorance of the clinical picture of common diseases.*—Many of the causes of neck stiffness or enlarged spleen may be known to the young G.P. fresh from hospital, but unless he is aware that acute tonsillitis may be associated with both these signs he will make unnecessary mistakes.

3. *Lack of standards (or method) for dealing with the most common problems of family practice.*—A good example of this is simple anxiety. In hospital the young doctor has learnt that the object of history-taking and examination is diagnostic, and the principle of interrogating and examining patients for purely therapeutic reasons is foreign to him. Yet a family doctor's ability



to gain the confidence of his patients may depend more upon this simple measure than on any other.

4. *The feeling that general practice is inferior to hospital practice.*—As in other spheres such a feeling arises from initial lack of confidence.

The problems brought to a family doctor cover a much wider field than is suggested by this analysis in terms of "incidents of sickness."

The work of the family doctor falls into four main groups. The first two of these (groups A and B below) cover work concerned with diagnosis and formal therapeutics; this work has already been considered. The last two groups (C and D) cover wider aspects.

Group A.—The early recognition of major disease which requires either immediate diagnosis and treatment (e.g., appendicitis or pneumonia) or further elucidation in hospital (e.g., a suspected neoplasm or unexplained loss of weight).

Group B.—The recognition and management of the so-called minor ailments.

Group C.—Advisory, supervisory, and preventive measures (e.g., much pædiatric and antenatal care).

Group D.—Assisting patients to make mental and physical adjustments to problems such as old age, chronic ill health, anxiety, and convalescence.

It is true that the object of a student's training is not to give a balanced clinical experience, but to develop in him the knowledge and insight that will enable him to help his patients most. But can teachers who are wholly concerned with hospital work be sufficiently aware of the problems and methods of G.P.s to correct the bias of hospital training?

As this analysis has shown, only 25% of the G.P.'s work overlaps with work in hospital. For the remaining 75% all that the hospital teacher can do is to stress basic principles common to all medical problems, such as the importance of a full examination and thinking in terms of past experience. Such points are important, but unless they are related continually to the actual problems of general practice their significance in family practice will often be forgotten by the student.

A lecturer in obstetrics might consider that experience in a hospital antenatal clinic prepares the potential family doctor for a similar job in general practice. In fact such clinics only taught me the indications for admitting antenatal patients to hospital—i.e., the point at which the family doctor's job ends. I learnt nothing of the positive side of the family doctor's job, such as the gradual building up of the pregnant mother's trust and confidence in her midwife and doctor, which is such a big factor in the obstetrics of general practice.

The basic need is to widen the scope of the student's training to include something of the principles and methods of family practice, without confusing him.

SUGGESTIONS

My own experience leads me to believe that the scope of a student's training could be thus widened without either confusing him or adding greatly to the undergraduate curriculum. General practice is the background to all hospital medical practice, and this background could be shown to the student continually and gradually in three main stages.

The First Stage

Greater emphasis should be placed throughout a student's training on the basic aims of every doctor. I believe that insufficient stress is layed, either in hospital or out of it, on developing the fundamental attitude that every contact with a patient should be used to bring the patient nearer to health in body and mind, and that there is no other justification whatever for seeing any patient. If this basic principle of medicine were stressed throughout a student's training he would enter general practice prepared to deal with the problems which he finds there, instead of being disappointed to discover that it differs so greatly from his hospital experience.

The Second Stage

The undergraduate medical student should be introduced to general practice at the very heart of his hospital training—i.e., at the ward round. My reason for believing this is that in my own written accounts of student ward rounds there were endless points of interest to a G.P. which had been left unemphasised. These points could have been used to illustrate every facet of the family doctor's work and would have given me as a student a picture of medicine as a whole that otherwise was unobtainable. Attaching undergraduate students for short periods to a family doctor (or G.P. unit) may enable them to learn a little about the methods of general practice, but is likely to muddle them; and they will certainly regard this as an "extra" that has little bearing on finals. Students whom I have taken on my rounds in general practice seem confused by its range and worried by the uncertainty of much of its diagnosis. It would not be difficult to get one or two general practitioners who were interested in teaching to take an active part in every student ward round or demonstration. They could indicate the family doctor's part as need arose. If this were painstakingly done, the training of students could be greatly enriched. It is certainly as valuable to hear a family doctor discussing the antecedent circumstances of a case as to hear a pathologist discussing its outcome.

The Third Stage

This would consist in a six-month apprenticeship to a family doctor at the intern stage. Unfortunately, as things stand at present, it would be extremely hard to find G.P.s prepared to provide facilities for this. The presence of students will always be a strain on the average family doctor, because the relationship with his patients is so personal. Nevertheless, I believe that the development of this form of postgraduate training should be one aim of all family doctors.

In such ways students would be made increasingly aware of the vital part which the family doctor plays in bringing patients nearer to health. They could see, long before they experienced it, that general practice is one of the most important and fascinating branches of medicine.

I thank Prof. Donald Court for his help and criticism of this paper.

THE TUTORIAL SYSTEM IN MEDICAL SCHOOLS

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IN the field of medical education the individual needs of the student have received little emphasis; consequently attention to these needs has come to be regarded with slight distrust if not with real opposition. In the past it has frequently been said that the good student will always adequately look after himself, and that for the others nothing can be done save somehow to force into them as many as possible of the essential facts. This, in view of the power of modern medicine, is not very kind to future patients; especially as there is now no agreement as to what facts are essential, nor certainty that qualification ensures possession of them all. It would seem fair to abandon this attitude until we know whether, when students have had the advantages of individual help, their capabilities still justify this unflattering assessment.

The Need for a Tutorial System

If the student is to be given a basis for lasting efficiency and safety in practice he must be well grounded in clinical observation, acquire method of rational and

critical thought as well as empirical knowledge, and above all learn how to learn for himself. Some students have already begun to think and learn for themselves when they reach medical school, but many have had no encouragement or even need to use their own minds. They are firmly set in the worst ways of learning—memorising as much as they can of teaching and textbooks, both of which they passively accept and upon which they are hopelessly dependent. This habit is usually acquired in order to survive the intensive examination obstacle race to medical school, and after arrival it is confirmed because examinations remain the primary aim. It becomes even more deeply ingrained because in many medical schools the tradition of the "divine right" of teachers, particularly clinical "chiefs," still lingers.

Furthermore teaching tends to be directed at groups of students. The number of teachers increases steadily; but, because the number of fragments into which the practice of hospital medicine is divided increases at the same speed, the size of the groups undergoing instruction does not diminish. Indeed various factors have combined to increase the gap between teachers and taught, and much that came down to us of the old system of apprenticeship has now lost its effectiveness. Though the student may have teachers able to make full use of the didactic lecture as a means of stimulating ideas, or may attend clinical demonstrations in which perfect illustrations of rational thinking are given, these may be of little help to him unless he has himself become capable of independent thought. Often he has not, and often no-one knows that he has not; for it is now all too easy for the student to remain unknown as an individual to most of his teachers.

There is urgent need therefore of some method whereby each student can be assisted to learn for himself, and guided in such a way as to ensure that his personal clinical experience is both wide and deep.

The Possibilities of the Tutorial System

The duty of the tutor is to inspire and guide the student to bring his own intelligence, previous education, industry, and character to bear on rewarding work. The help that he can give falls into three main spheres—in learning, in clinical experience, and in personal problems.

Learning

The tutor is not concerned with teaching, in the present generally accepted meaning of the word—i.e., presenting information to students. There are a great many far more economical methods of teaching. Nevertheless he must ensure that the student does in his early days absorb enough correct factual knowledge to enable him to learn a method of rational thought, for nobody can think in a vacuum.

The traditional method of tutoring is simple. It consists in setting the student to write an essay on a selected subject, guiding him as to where he may glean information concerning it, and discussing his essay with him. If the subject is primarily factual and the essay purely descriptive, the object of the exercise is missed. If the subject requires thought and an opinion based upon consideration of available information, then discussion can be based on the method of thought and on the presentation of the argument.

The essay may not always be essential, but it forms the basis of the method. It ensures that the student's participation is active and not passive; it is the most economical means (provided suitable subjects are selected) of discovering the state of his mental processes; and few students can learn to think if they do not regularly transmit their thoughts to paper. In early days it is particularly advantageous because many students, hampered by shyness of various kinds and inarticulate from lack of experience, do themselves less than justice in verbal exchanges and so suffer increasing lack of confidence. Moreover there are few who will not benefit from trying to write lucid English prose.

Criticism alone is unlikely to stimulate improvement, and encouragement is equally important. Hence, early essays must not be beyond the intellectual reach of the student and the tutor must early acquire sound knowledge of him. From this knowledge he can assess not only deficiences but also the interests and abilities which can be mobilised to initiate independent thought in medical studies. There are many students who have in the pursuit of some interest or hobby acquired both confidence and the ability to think for themselves, but who in regard to their "work" have remained crushed into abject dependence. It is depressing but not uncommon to find a senior student who is notorious for his wooden-headed attitude to medicine perfectly capable of logical thought when it comes to diagnosing the fault in his car. The tutor who knows his pupil can often inspire him with equal interest in his studies, and enable him to bring his ability to bear upon them. It does not matter in the least in what subject independence of thought is achieved: what does matter is that once achieved in one subject it should be used in all others. Furthermore a critical faculty is often born of the confidence that comes from knowing one subject really well.

Under present conditions the study of medicine has become fragmented. Something may be done to offset this by improvements in curricula, but inevitably the ever-widening field of medicine will always require that the student integrates much of his knowledge for himself. The tutor's guidance can help him greatly in this, and enable him to make of his passage through the curriculum a progressive educational experience rather than a series of isolated and too often technical accretions of knowledge. It does not require much imagination to select subjects for essay-writing which will lead the student to integrate his knowledge and continually recall to use that which he has learnt in the past.

It is also easy to guide his reading so that he studies original articles rather than textbooks, thus gaining something of the spirit of discovery which can add so much zest to study; and throughout the course the original interest which led him to take up medicine can be kept alive by continually referring his studies to patients. During clinical work the student may occasionally be asked to write the diary of a patient suffering from a particular chronic disease; by this means he is compelled to look at disease from the patient's angle, which gives him the most genuine incentive for learning. While an essay on the advantages and disadvantages of being a patient in a teaching hospital reminds him that he is not the only one who is paying a price for the knowledge he acquires.

Clinical Experience

Knowledge of medicine must be balanced by knowledge of diseased people. This can be acquired only by the steady application (with increasing skill) of clinical method to patients. This constitutes experience, and the tutor can be of immense help in ensuring that knowledge and experience advance in balance.

More serious and more imaginative attention to the provision of proper clinical experience for students will no doubt do much to remedy the distortion of it which tends to follow rapid specialisation in teaching hospitals. The tutor, however, seems to be the only person in a position to keep a check on what experience the individual student has actually had. He cannot often make good the present deficiencies in regard to opportunities for practice under supervision and for practical responsibilities to patients, but he can ensure that his student

is not lacking in any special field of experience and that there are not conditions of importance (either in general or to that particular student) which he has never seen.

In all schools the tutor can keep himself informed of the student's facility in clinical method by the simple process of studying his case-reports from time to time in whatever ward or department he may happen to be working. He can see to it that, from the earliest days of clerking, the student keeps personal records of the patients he has seen. From these records he can advise the student on which cases he can most profitably follow up at later outpatient attendances or even at home. Thus he can ensure that his experience is not lacking in depth.

At the same time these records (and the relevant references studied) will form the basis of the personal textbook of medicine which will last the student's lifetime and be continually augmented. This will provide both order and increasing motive force in his clinical work. Under these conditions experience is an incentive to acquire further knowledge. This provides confidence with which to face examinations. Experience provides confidence with which to face medical practice.

Personal Problems

English medical students choose their career at about 16. In the next seven or eight years before they qualify many are likely to meet personal problems of some kind—and these are in fact as diverse as are the students themselves. Many have backgrounds very different from those of pre-war students and many have no link with medicine. Even under settled conditions they would have certain difficulties, but medicine itself is in a state of upheaval and of transition. Many of their problems do not fall within the province of a tutor; but it is natural that they should first turn to him, just as it is correct that the medical school should provide each student with one teacher who knows him and to whom he can turn if need be for advice as to where to go next.

Some problems cannot be solved without the help of the tutor, who is after all in a better position than anyone else to know the student. Indeed the tutorial system can not only provide at least the nucleus of a scheme of progressive personal assessment in a medical school, but can bring to light evidence of great importance to education about the reactions of students to various facets of the curriculum—both old and new.

Qualities of the Tutor

The qualities required of a tutor obviously include a sincere interest in the education of undergraduates, the determination to provide the time required, and professional experience and ability. It is, however, work in which a clear concept of one's purpose is as essential as the time, ability, and enthusiasm necessary to carry it out.

At first sight it might be thought advantageous if the tutor were not too far removed from the difficulties of his own student days, but this can be a double-edged weapon. One of the most clearly remembered difficulties is that of examinations, and the only solution offered by memory is sometimes the very work that it is not the intention of the tutorial system to encourage. The tendency to ask for essays of the "Describe the symptoms of . . ." or the "Give the causes of . . ." type stems from this. Undoubtedly the greatest asset a tutor can have is the memory of himself having once had the benefit of a good one.

A further important asset is the experience of responsible practice. This confers perhaps greater advantage than even the highest intellectual power, and certainly more than the possession of great knowledge. Above all it confers the essential requirement of humility, and helps to prevent dogmatism and pomposity, which are lethal to successful tutoring. Unfortunately experience of responsible practice cannot be expected in great measure from registrars, and this is a major reason for hoping that one day the conditions of service for part-time consultants at teaching hospitals will allow them to engage fully in tutorial work. A further reason is, of course, that in this way continuity of tutor would be ensured for each student and that the experience of tutoring would be cumulative.

It is obviously axiomatic that the tutor should know as fully as possible the current curriculum of his medical school. One cannot be a guide if one does not know the road, and even the ability to read a map does not enable one to point out ahead of time which stretches of road will in retrospect prove to be most profitable, nor to advise as to what will be required at particular places if real benefit is to accrue from stopping there. It is not to be expected of the tutor that he will approve of the current curriculum; but it is to be expected that, so far as his students are concerned, he will accept it. The carping critic, the man with a "chip on his shoulder," and he who attributes the absence of all he thinks correct to the machinations of some omnipotent but unknown "they," do not make helpful tutors—usually because they are reluctant to present their views to any other forum than the powerless students.

The good tutor is often one who does not particularly enjoy teaching. The clever showman and the able lecturer, both of whom are intensely valuable t any school lucky enough to possess them, often seem to need the inspiration of the audience which their gifts enable them to inspire. There are, however, always some who are kindled by the fascination of helping others to learn. Perhaps they are encouraged by realising that in this kind of work, even if they sometimes do little good, they can do little harm, and occasionally they will work wonders.

The Tutorial System in Practice

Several medical schools have now had a tutorial system in use for some years, its extent and success varying perhaps more from tutor to tutor than from place to place. My personal experience is only of that which has now been in action at the London Hospital Medical College for nearly ten years, and (as a visitor) of that included four years ago in the new curriculum of Western Reserve University at Cleveland, Ohio.

At the London Hospital the tutors have been drawn throughout from medical registrars and from the assistants on the medical unit. The maximum number of tutors at any one time has been eighteen, in a school with a clinical entry, twice a year, of slightly under fifty students. The system covers the three clinical years only but follows a somewhat similar system (consisting mainly of "small group discussions") in the preclinical period. In general students attend their tutors in groups of about three, and therefore we cannot claim that this is a strictly individual tutorial system. When a tutor myself, however, I did not find that a group of this size precluded individual attention; individual meetings can be arranged if necessary, and so much of tutoring is done outside of the times of meeting—e.g., by careful choice of work most likely to be helpful to the particular student.

It is difficult to give figures accurately representing the amount of time devoted by registrars to this work. It varies greatly, and tutors are encouraged to see students more frequently at some stages of the curriculum than at others. At few stages is a weekly meeting expected. To my mind of far greater importance than a detailed time-table is the firm acceptance by all concerned (students, tutors, and the rest of the staff) that students must spend more time working for their tutors than meeting them, and that the time spent by tutors is

spent on an important duty which must carry high priority. This is after all the only time likely to be spent in a modern medical school during which a clinical teacher is entirely free to concentrate on the problems of a student's learning. Any suggestion that a tutorial is, for either student or tutor, a luxury—a mere extra like learning to play wind-instruments at school—dooms the entire system to failure. It is equally important that there should be regular if infrequent discussions between tutors and those responsible for running the scheme.

My personal assessment of the London Hospital scheme is that it has been surprisingly successful in the face of great difficulties. It has had to defy almost complete lack of facilities in regard to suitable space; the tutors have had no previous experience of tutoring and very few of being tutored; and all have been engaged on work of their own, in appointments which did not previously carry this duty. Furthermore the full purpose of new schemes is not easily apparent to either students or staff, especially when traditional forces such as examinations gain in power by remaining starkly immobile while so much else changes. In a sea of change it is more natural to cling to anything which still resembles the old familiar forms of training than to embrace wholeheartedly any new scheme of education.

It is fair, in my opinion, to say that over the years the best tutors at the London have succeeded in achieving most of what is outlined above for some of their students. Others may have provided no more than a coaching service. What really matters, however, is that without doubt each succeeding year has seen the scheme more successful in every way, and this steady upward trend is all that can be desired of such an innovation in so few years.

The situation at Western Reserve University is very different. Here the tutorial system is an integral part of an entirely new curriculum. It is, in fact, far more important than the curriculum. In the first year the student (in a group of 8) meets his clinical preceptor every week, and as the years go on he becomes virtually his apprentice, although he is continually leaving him to work elsewhere and to sit at the feet of other teachers. Always, however, he returns, not merely for advice but because much of his actual clinical work is arranged with his preceptor, under whose supervision he examines, treats, and follows up a variety of patients. The student does not have the same preceptor each year, but all who undertake to do this work make themselves fully conversant with every aspect of teaching and experience given to the student in the phase in which they are responsible for him, and with its exact educational purpose.

In my opinion this system is very successful. It cannot, however, be compared with anything now in use in British schools. The majority of the tutors are of staff status and the whole system depends on the availability of such teachers to engage in the tutorial method of education. Around them and around this method the remainder of the training is built up. Whether it will continue to succeed remains to be seen, but whatever happens this university will have created a remarkable pool of experienced medical tutors.

Conclusion

If medical education is to continue within the universities it is hard to conceive that any better means of helping the individual student to learn for himself can be found than the tutorial system which has been so successful in other faculties. For it to function fully, however, it must have proper facilities, which amount to no more and no less than the facilities required for all other forms of university education. Certainly no major extension of it, such as could make it the real basis of medical education, could be possible without the provision of both space and conditions of service for the appointed and recognised teachers of medicine which would allow them to take part in it.

For its immediate improvement a means must be found to allow it to operate throughout the five-year course, without the unfortunate division created by the present curriculum. Unhappily five years is a longer period than most registrars will remain available for tutoring in the same school. It should be possible, however, for the pre-clinical teachers who act as tutors in the early years to link up with clinical tutors in the later period. In fact the clinical tutor can do much to help his students by bringing to them, or sending them to, representatives of many different scientific departments and branches of medicine. In such meetings the general practitioner, the research-worker, and the social-medicine department could all from time to time be included with benefit. The tutor's list of contacts and friends is as valuable as his list of useful references.

There is no aspect of medical education more open to the exercise of imagination and energy, for its problems differ with each individual student. If these problems are overcome each individual student learns how to learn. He is no longer in danger of "spoon-feeding" for he has learnt how to eat, digest, and still retain an appetite. He need not waste his medical education as an avid but uncritical glutton for the facts and opinions put before him, and so emerge with no alternative but to chew the cud for the next forty years.

THE INDIVIDUAL TUTORIAL SYSTEM IN CLINICAL MEDICINE

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THE individual tutorial system has long been Oxford's pride. The benches harangued by professors may be largely empty; but, so long as the tutorial system continues to thrive, the heart of Oxford is sound. The technique, however, is not often anatomised, since at other Universities it is seldom used and at Oxford its superiority to other forms of teaching is considered too obvious for discussion in intelligent circles.

The essentials of the system are that the tutor outlines a subject and a programme of reading; the student appears the following week with an essay which he reads to his tutor, who criticises it; and the subject is then discussed in such a way that a kind of Hegelian synthesis takes shape by the end of the hour.

Since it was first introduced into clinical medicine eight years ago at Oxford, other clinical schools have shown an interest in this method of teaching; and it may therefore be useful if I outline some of the special problems that arise when the technique is applied to clinical subjects. I should perhaps add that the opinions I shall express are personal and do not necessarily reflect the collective views of the Oxford Clinical School.

Scope and Limitations

It is sometimes argued that medicine is an art learnt by studying sick people and not by theorising, and I must emphasise that in clinical medicine the individual tutorial is only an ancillary technique which supplements teaching in the ward and outpatient departments. It can never become the primary teaching method as it can in the case of a student reading for an arts degree.

Before attempting to describe what an individual tutorial is, I should state what it is not: it is not a method of special coaching designed to get students through their examinations. Nevertheless, without eternal vigilance, this is what it will become; for there is often strong

pressure from students in this direction, since the passing of examinations is the short-term objective of them all. For those within a few weeks of their final B.M. examination, some compromise is inevitable, and it is desirable to give these students some practice in the technique of answering examination questions. But during the rest of the clinical course, the object of the tutorial is to help the student to learn for himself.

As a method of imparting factual knowledge tutorials are inefficient and expensive. Whereas in a lecture a teacher can address fifty students, in a tutorial he has only one, which means that, to be justified in terms of man-hours, the tutorial must be fifty times as effective as the lecture. The reasons in its favour are that the student is active and not passive and that at its best it can do something which no other teaching method can do.

Reading and Discussion

No tutorial can be effective if the student has not prepared for it, and this implies that he must have enough time for reading. With the present overloaded curriculum this is not easily arranged, and unless he has at least two weeks between tutorials, preparation for them is apt to consist in one frenzied rush to the library on the evening before. The tutor should keep a file of key references: good reviews, such as the Goulstonian and Croonian lectures, are invaluable in this respect. He should also make sure that the student knows how to use a library and how to read a scientific paper. Few students distinguish clearly between fact and hypothesis—between what the author has actually demonstrated and the inductions he has drawn from his work.

I do not regard the written essay as always necessary provided that the student can mobilise his ideas verbally with the help of a little cross-examination. The subject for discussion should not be one which can be lifted straight out of a textbook, but should be sufficiently wide in scope to allow the student room for manœuvre. Such subjects as "the causes of cardiac muscle failure," "the treatment of fluid retention" or "psychosomatic factors in gastro-intestinal disease" are usually good for an hour's discussion. Within reason the student should be allowed to select any subject about which he is prepared to get excited. I think it is right to encourage speculation and not to be hypercritical; for there is so little certainty in medicine that original ideas are always refreshing, and even crackpot ideas are better than no ideas at all. It is not the tutor's job to impose his own views, but to act as obstetrician at the birth of the student's own brain-child, although in practice vigorous use of dialectical forceps may be necessary.

The success of a tutorial may be measured by the amount of talking done by the student rather than the teacher. The tutor must shed the mantle of omniscience which too many clinicians like to wrap around themselves; for it is a poor student who will not, after two weeks reading, produce a few facts unfamiliar to this teacher.

The Less Profitable Occasions

A tutorial is usually a pleasant and profitable experience for the tutor, but it can sometimes be heavy going. The feeling of exhaustion which occasionally steals over me at the end of a tutorial is no doubt due mainly to my own imperfections, but it is usually precipitated by one of the following:

The Tapeworm who comes to the tutorial simply to be fed, preferably with predigested knowledge. If challenged, he relies on authority rather than evidence, and it is impossible to get an original idea out of him either by sticks or carrots. He is the potential saboteur of the tutorial system. The only successful counterploy I have found is to keep up a steady barrage of questions, preferably those simple but unanswerable questions in which medicine abounds: "why does a patient with peptic ulcer get pain?", "why do therapeutic doses of alkali give him relief?", or "why is chronic bronchitis chronic?", &c. He may then be forced into the position of having to think for himself.

The Magpie who has a passion for facts which he accumulates in a quantitative rather than a critical manner. He is a conscientious student whose essay is always too long and he will have forgotten 90% of its content by the time he comes for his next tutorial. The prognosis here is better than in the case of the tapeworm, and he may respond to the suggestion that he should concentrate on sifting the significant from the trivial and that integrating facts is not only more profitable but more fun than simply hoarding them. It may be desirable to limit the length of his essay or tell him not to write one at all.

In the final analysis the success or failure of the individual tutorial system depends on the mental calibre of students and teachers. A teaching technique is as useless as an incantation unless it is brought to life by the zest and imagination of those who actually do the teaching (often a very different body of men from those who sit on committees and manipulate the curriculum). There is nothing as dead as a perfunctory tutorial, and a story told by A. L. Smith is a salutary warning. He once visited Dr. Spooner of New College and found him shaving in his bedroom with the door open while an undergraduate mumbled inaudibly in the next room. When the voice ceased, Dr. Spooner said "That's very bad. You may go now." "Oh, so that's how you correct essays in New College, is it?" said Smith. "Yes," said Dr. Spooner, "that's how we correct essays in New College." [1]

TESTING FOR LEARNT SKILL IN OBSERVATION AND EVALUATION OF EVIDENCE

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IN the past few years a course of eight discussions has been taken by each new class of preclinical students in this department. The aim of these discussions has been to help the participants to become aware of the factors that influence their judgment in scientific matters. In particular they were designed to make the students aware of the assumptions and preconceptions which influence the receipt of information, visually and otherwise. Our belief has been that the validity of judgments is likely to be improved if these factors are recognised and their contributions critically examined (Johnson 1950, 1955a). The specific aim of the first three discussions was to improve skill in observation, one being concerned directly with observation in anatomy and two with visual perception in general (Johnson 1953, 1955b and c).

If the course is successful we should expect students who have taken it to make a more critical appraisal of evidence, and therefore to distinguish better between descriptive and inferential statements; to make fewer false inferences; to consider alternative inferences rather than confine their attention to one only; and to be less "set"—i.e., less inappropriately influenced in dealing with one problem by the experience of an immediately preceding problem.

In the last three years we have given observation tests to the students and have compared the performances of those who had taken the course and those who had not

1. Quoted by Christopher Hollis in the *Tablet*, Sept. 6, 1941.

yet done so. Significant differences between the two groups were found, which indicated that the course had the favourable effects predicted.

Sampling

At the beginning of the first term of each of three years the students were divided according to alphabetical order of surname into two approximately equal groups, one of which attended the discussion course during this first term and the other in the following term. At the end of the first term all the students were given observation tests under examination conditions. The group of students which had taken the course at the time of testing is referred to as the "taught group," and the other as the "control group." In two of the years the taught group, and in the other year the control group, consisted of students whose names fell in the first part of the alphabet. The total of 14 hours spent by the taught group at discussions was available to the control group for dissection of thorax and arm.

Each year, before the discussions started, all the students (presumptive taught and presumptive control) were given an observation test in order to detect any initial differences between the two groups. The test consisted of radiographs of a child's and an adult's hand. The students were not told this and were asked to describe the differences between the plates. Performances at this test were analysed as far as possible in a similar way to the later post-discussion tests.

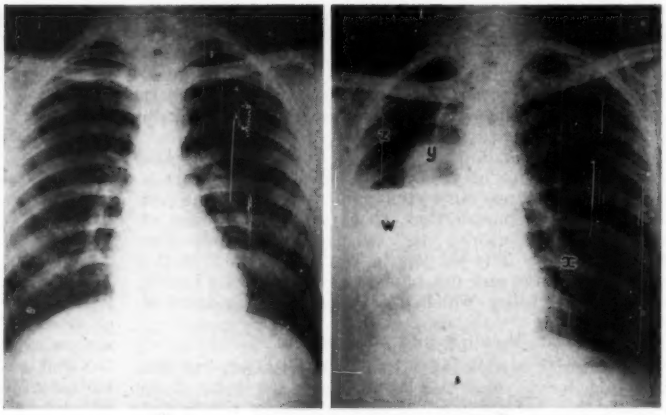
The Tests

The tests used involved the comparison of two similar but not identical objects and resemble questions set in 2nd M.B. practical examinations. The choice of suitable material for the tests is very restricted: it had to be of a kind that students would know enough but not too much about; that most students would have had equal opportunity to become familiar with, and that could be easily replicated. These criteria were met by the use of radiographs of parts of the body studied during the past term. Three tests have been used. Twenty minutes were allowed for each question.

Test 1 (*thorax*).—This test was used in each of the three years, and was taken by a total of 94 taught and 107 control students. The question was "List the differences you can see between the two radiographs." The radiographs are reproduced in the figure. Both are postero-anterior views of the thorax, and both were taken after full inspiration. Film A is of a normal male thorax. Film B is of a man who had a right-sided pneumothorax with effusion, and displacement of the heart and mediastinum to the right. The left lung was normal.

This test was taken immediately after another question on the thorax, the answers to which have not been analysed, since its sole function was to allow investigation of the influence of one test on another. The test consisted of two postero-anterior radiographs of the chest, one taken after full inspiration and the other after full expiration. The students were told that the radiographs were of the same individual and that one was taken a few seconds after the other. They were required to list the differences they could see, and to measure differences in the position of the diaphragm, size of heart, and width of thorax. The expression of the influence of this test on the one that followed it, called "set," is discussed below.

Test 2 (*shoulder*).—This test was used in 1954 and 1955 and was taken by a total of 56 taught and 69 control students. The question was "Describe the differences in appearance of the humerus and its relation with other bony parts in radiographs A and B. What do you conclude is the difference in position of the humerus in the two radiographs?" The radiographs were anteroposterior views of the same shoulder, one with the humerus in the anatomical position, and the other with the humerus in full medial rotation.



Test 1—"List the differences between the two radiographs." (The labels w, x, y, z, were not present on the original films.)

Test 3 (*forearm*).—This test was used in 1955 only, and was taken by 27 taught and 41 control students. The question was "List and account for the differences between the bones of the forearm in radiographs A and B." The radiographs were postero-anterior views of the two forearms of an adult. One forearm showed a congenital fusion of the upper end of the radius and ulna which fixed the arm in a nearly full prone position. The other forearm was radiographed in a similar but not identical prone position. The bones of this latter arm were slightly longer and thicker. All indications of identity and side were absent from the films, although they were orientated on the viewing screen as would be expected for arms of opposite side. This question was given immediately following the shoulder questions so that the possible influence of one on the other ("set") could be investigated.

Analysis of Answers

The scripts were numbered from a table of random numbers and the names obscured. The assessors remained unaware of which scripts belong to the taught or control groups until after the marking was finished. Two of the three assessors (D. W. J. and P. V.) had not been associated with the discussion course. Each question was initially marked independently by at least two of us, each assessor developing his own method of marking. The marks, and the criteria on which they were based, were then compared and discussed. Finally, criteria which seemed best suited for testing our assumptions about the effect of the discussions were agreed and the scripts were remarked. The thorax question was marked by one of us (P. V.), except for the assessment of "set" which was scored by two of us independently (M. L. J. and P. V.), disagreements being reconsidered in consultation. The shoulder and forearm questions were marked by two assessors independently (shoulder, D. W. J. and M. L. J.; forearm, D. W. J. and P. V.) and disagreements reconsidered by remarking in consultation.

When a test was given in more than one year the results are presented for the combined classes. In the case of the thorax test, variation of the results of comparisons of taught and control students from year to year was investigated. No significant difference between years was found.

Results

TEST 1 (THORAX)

Answers to this test were analysed so as to investigate the effect of the discussions on making inferences (parti-

cularly false inferences) and descriptive statements. For this purpose the answers were scored with respect to statements made about each of the four regions indicated in figure (B) by the letters w, x, y, and z. These four selected regions represent :

(w) The lower part of the right thorax which in film B is obscured by the shadow of the fluid content.
(x) The lower left medial thorax which in film A is occupied by the heart shadow, but which in B is chiefly occupied by lung shadow, and contains only a small part of the margin of the heart shadow.
(y) The right upper medial part of the thorax which in B is occupied by the shadow of the collapsed lung.
(z) The right upper lateral part of the thorax which in B contains no lung shadow.

These regions were chosen as representing some of the most striking differences between the films, and as likely to provoke explanatory inferences. No account was taken, in scoring the answers, of any statement about differences not localised in one of these regions, unless the statement came under the heading of " set."

Statements (or absence thereof) about each of these regions were classified in one only of the following categories :

(*a*) True inference with no description.
(*b*) False inference with no description.
(*c*) True inference with description.
(*d*) False inference with description.
(*e*) Description with no inference.
(*f*) No statement.

A descriptive statement is defined as one that can be confirmed by reference to the radiographs alone without any additional information. An inferential statement is defined as one which cannot be confirmed (or rejected) without additional information not present in the radiographs. In practice a somewhat less strict and more arbitrary criterion was used to distinguish descriptive from inferential statements. A statement was classified as descriptive even when it contained inferences, provided such inferences were judged to be axiomatic, in the sense that no disagreement about them was to be expected among the students. This criterion is illustrated in the following hypothetical examples :

(1) " The central homogeneous shadow has a convex outline in its lower part which projects much farther to the right (of the observer) in A than in B."
(2) " The heart projects much further in to the left thoracic cavity in A than in B."
(3) " The heart has been displaced toward right side of the thorax of B."
(4) " The heart lies in the right upper medial thorax of B."
(5) " The heart is much smaller or / is in systole or / is absent in B."

Of these five statements about region x, the first and second would both be classified as descriptive with no inference (*e*) even though the second contains the inferences that the shadows in question represent the heart and the thoracic cavity respectively since both these inferences seem to be accepted by all the students. The third statement would be classified as a true inference with no description (*a*), since no heart shadow is actually visible to the right of the midline. The last two statements would be classified as false inferences with no descriptions (*b*). A combination of statements (1) or (2) with (3), (4) or (5) would be classified as a descriptive statement with a true or false inference as the case might be (*c* or *d*). In the few instances when the inference or inferences about one region were judged to be partly true and partly false it was classified as true.

It will be noticed that the classification of statements does not distinguish between accurate and inaccurate descriptions. It was thought that to introduce this additional variable would increase too greatly the complexities of analysis and the errors of judgment of the assessor.

The frequencies with which the following twelve kinds of statement were made about each region by the taught and control students were compared by chi-squared tests (values of $P<0.05$ were considered significant) :

(1) Inference.
(2) True inference.
(3) False inference.
(4) Inference with description.
(5) True inference with description.
(6) False inference with description.
(7) Inference without description.
(8) True inference without description.
(9) False inference without description.
(10) Description (with or without inference).
(11) Description without inference.
(12) No statement.

It was found that two of the four regions (y and z, see figure (B)) did not discriminate between the taught and control groups in any of the above comparisons. These regions were characterised by a high proportion of students in both groups who made no statement about them (about 30% for region y and 50% for region z).

Table I sets out the results obtained for the other two regions. These results show that the taught students made fewer inferences than the control students, and that this difference was chiefly expressed, not in the number who made true inferences, but in the fewer taught students who made false inferences. Further, though the number of students who made inferences accompanied by descriptions did not differ significantly in the two groups, fewer taught students made inferences not accompanied by descriptions. Similarly more taught students made descriptive statements.

The results are considered to be consistent with the hypothesis that the discussions tend to alter the behaviour of the students in the direction of making them more critical of evidence and less inclined to reach ill-founded conclusions.

Statements made about two regions of the hand radiographs in the prediscussion test—(a) carpus and (b) flesh shadow—were amenable to the same kind of analysis, and the results are also shown in table I. In only one case (region a, comparison (12), descriptive statement) is there a significant difference between the two groups which is in the same direction as that found in the thorax test. In region b there are significant differences in comparisons 1, 3, 7, and 9 but in the opposite direction to those found in the thorax test. In so far as the prediscussion test can be considered comparable to the thorax test it indicates that, with the possible exception of descriptive statements, the differences detected by the latter test were not due to initial differences between the groups. The comparability of tests is, however, difficult to assess. The success with which differences in performance are shown varies from region to region within the same test. In addition the students themselves varied more in their knowledge of anatomy and radiography at the beginning than at the end of the first term's work in anatomy.

TEST 2 (SHOULDER)

In this test the students had been directed to make an inference about the difference in position of the humerus in the two films. That it was obvious that this difference is due to rotation of the humerus is shown by the fact that, with one exception which has been excluded from the analysis, only three kinds of inference were made : correct (medial rotation) ; incorrect (lateral rotation) ; and indeterminate (rotation with direction not specified). To make the correct inference of medial rotation, other than by chance, it is necessary to have sufficient knowledge of anatomy to identify parts of the humerus seen from different aspects and to estimate that the degree of displacement shown could have occurred only by medial and not by lateral rotation. We would not expect the taught students to differ from the controls in either their knowledge of anatomy or their luck, but it was expected that they would be more cautious in

TABLE I—THORAX AND PREDISCUSSION (HAND) TESTS: THE PERCENTAGES OF STUDENTS IN THE TAUGHT AND CONTROL GROUPS THAT MADE VARIOUS KINDS OF STATEMENTS ABOUT EACH OF TWO REGIONS, AND THE PROBABILITIES (P) THAT THE FREQUENCY DIFFERENCES BETWEEN THE SAMPLES OCCURRED BY CHANCE. (94 TAUGHT STUDENTS AND 107 CONTROL)

Statement	Thorax test						Prediscussion test					
	Region x			Region w			Region a			Region b		
	Taught (%)	Control (%)	P	Taught (%)	Control (%)	P	Presumptive taught (%)	Presumptive control (%)	P	Presumptive taught (%)	Presumptive control (%)	P
(1) Inference	52·13	62·62	<0·250 >0·100	22·34	48·60	*<0·001*	51·06	53·27	<0·900 >0·750	30·85	16·82	*<0·025 >0·010*
(2) True inference	26·60	21·50	<0·500 >0·250	7·45	13·08	<0·250 >0·100	22·34	26·17	<0·750 >0·500	11·70	7·48	<0·500 >0·250
(3) False inference	25·53	41·12	*<0·025 >0·010*	14·89	35·51	*<0·001*	28·72	27·10	<0·900 >0·750	19·15	9·35	*<0·050 >0·025*
(4) Inference with description	40·42	34·58	<0·500 >0·250	13·83	24·30	<0·100 >0·050	42·55	39·25	<0·750 >0·500	18·09	14·02	<0·500 >0·250
(5) True inference with description	21·28	14·95	<0·250 >0·100	6·38	9·35	<0·500 >0·250	20·21	19·63	<0·950 >0·900	8·51	6·54	<0·750 >0·500
(6) False inference with description	19·15	19·63	<0·950 >0·900	7·45	14·95	<0·100 >0·050	22·34	19·63	<0·750 >0·500	9·57	7·48	<0·750 >0·500
(7) Inference without description	11·70	28·04	*<0·005 >0·001*	8·51	24·30	*<0·005 >0·001*	8·51	14·02	<0·250 >0·100	12·77	2·80	*<0·025 >0·010*
(8) True inference without description	5·32	6·54	<0·750 >0·500	1·06	3·74	<0·500 >0·250	2·13	6·54	<0·250 >0·100	3·19	0·93	<0·750 >0·500
(9) False inference without description	6·38	21·50	*<0·005 >0·001*	7·45	20·56	*<0·010 >0·005*	6·38	7·48	<0·900 >0·750	9·57	1·87	*<0·050 >0·025*
(10) Description	87·23	71·03	*<0·010 >0·005*	88·30	73·83	*<0·010 >0·005*	76·60	63·55	*<0·050 >0·025*	56·38	57·94	<0·900 >0·750
(11) Description without inference	46·81	36·45	<0·250 >0·100	74·47	49·53	*<0·001*	34·04	24·30	<0·250 >0·100	38·30	43·93	<0·500 >0·250
(12) No statement	1·06	0·93	<0·950 >0·900	3·19	1·87	<0·950 >0·900	14·89	22·43	<0·250 >0·100	30·85	39·25	<0·250 >0·100

Values of P less than 0·05 are shown in italics.

their choice of inference and would more frequently consider both the possible hypotheses of medial and lateral rotation. This question, therefore, provided a suitable test for analysing the effect of the discussions on the tendency to consider more than one solution to a problem. Table II shows the proportions of students that gave the three kinds of inference listed above, and the proportions that explicitly considered both possible hypotheses, irrespective of whether they made a choice of one or the other.

The results confirm the prediction that more taught students would consider alternative hypotheses. Also, the differences, though not significant, between the taught and control students in respect of the numbers making false and indeterminate inferences are in the predicted directions.

In marking the preliminary (hand) test all cases of alternative inferences were scored, since the students were not asked to make inferences about a specific part. The numbers of students referring to alternative inferences in the two parts of the class were not significantly different (table II).

TABLE II—SHOULDER TEST: THE PERCENTAGES OF STUDENTS IN THE TAUGHT AND CONTROL GROUPS WHO MADE INFERENCES OF DIFFERENT KINDS AND THE PROBABILITIES (P) THAT THE FREQUENCY DIFFERENCES BETWEEN THE GROUPS OCCURRED BY CHANCE. FOR THE PREDISCUSSION (HAND) TEST THE PERCENTAGES STATING ALTERNATIVE INFERENCES ARE GIVEN. (56 TAUGHT STUDENTS AND 69 CONTROL)

Test	Inference	Taught (%)	Control (%)	P
Shoulder test	True	37·50	34·79	<0·900 >0·750
	False	39·29	53·62	<0·250 >0·100
	Indeterminate	23·21	11·59	<0·100 >0·050
		100·00	100·00	
	Alternative	24·00	7·25	*<0·010 >0·005*
Prediscussion test	Alternative	25·00	21·74	<0·750 >0·500

Values of P less than 0·05 are shown in italics.

"SET"

Test 1 (thorax) and test 3 (forearm) were used to investigate the frequency of "set" in the taught and control groups. "Set" was considered to be expressed in an answer to the second of a pair of questions when it contained inferences, or used methods which were inappropriate or superfluous, but which had been necessary and appropriate in the immediately preceding question.

TABLE III—"SET": THE PERCENTAGES OF TAUGHT AND CONTROL STUDENTS WHO SHOWED "SET" IN ANSWERING THE THORAX AND FOREARM TESTS, AND THE PROBABILITIES (P) THAT THE FREQUENCY DIFFERENCES BETWEEN THE GROUPS OCCURRED BY CHANCE.

Test	Taught (%)	Control (%)	P
Thorax	9·57	18·69	<0·100 >0·050
Forearm	3·70	21·95	*<0·050 >0·025*

Thorax: 94 taught students, 107 control.
Forearm: 27 taught students, 41 control.
Values of P less than 0·05 are shown in italics.

In these cases the experience of one situation was considered to have evoked a reaction which was carried over to a subsequent situation although it was no longer relevant. Thus, for example, selection of certain items, or interpretation of the differences between the chests in test 1 in terms of differences in the phase of respiration (carried over from the preceding question), or interpretation of differences between the forearms of test 3 in terms of supination and pronation (i.e., rotation, carried over from the shoulder test) were considered to be examples of "set."

Table III shows the frequencies of "set" found in the two groups. In both tests fewer taught students exhibited "set," and in the case of the forearm test this difference is just significant. It was not possible to measure "set" in the prediscussion test. The result is consistent with the hypothesis that the discussions tend to reduce set behaviour, presumably by promoting a more critical examination of the appropriateness of one's reactions.

Conclusion

We have demonstrated that students who had taken a course of eight discussions performed better in certain respects in observation tests than those who had not had the discussions but were otherwise similar. Compared with control students, fewer of the students who had taken the course made incorrect inferences, but as many made correct inferences; a larger number explicitly considered two hypotheses instead of one only; a smaller number were inappropriately biased by one test in dealing with another immediately following.

These differences are statistically significant, and we believe that they indicate a change in behaviour on the part of some of those who took the course in the direction of making sounder judgments. This has not been brought about by practising on material similar to that used for testing, as problems of interpretation of radiographs were specifically dealt with only in the first discussion, which took place 14 weeks before the tests. The change in behaviour seems to result from very general discussion in which the factors affecting scientific judgment are exposed.

We wish to express our thanks to the students who took an indispensable part in these investigations; to several past and present members of the anatomy department of University College, London, with whom we have discussed from time to time problems of training in observation, and in particular to Dr. J. Joseph, now of Guy's Hospital Medical School; to Mr. J. J. Cowley for discussion during the early stages of the testing; to Mr. A. R. Jonkheere for advice on treatment of the data; to Mr. D. E. Barton for advice on statistical tests; to Prof. J. Z. Young, F.R.S., for continuous encouragement and helpful criticism; and to the Rockefeller Foundation for financial support.

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DISPLAY PANELS AS A TEACHING AID IN GYNÆCOLOGY

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IF visual aids are to be successful in undergraduate teaching then they must, in our experience, be carefully planned and integrated with other forms of teaching. For several years our two departments have collaborated in the production of visual aids for use in the department of obstetrics and gynæcology. Our approach has been cautious and our work has been in the nature of an experiment, for we consider that it is easy to overemphasise the place of such aids in clinical teaching.

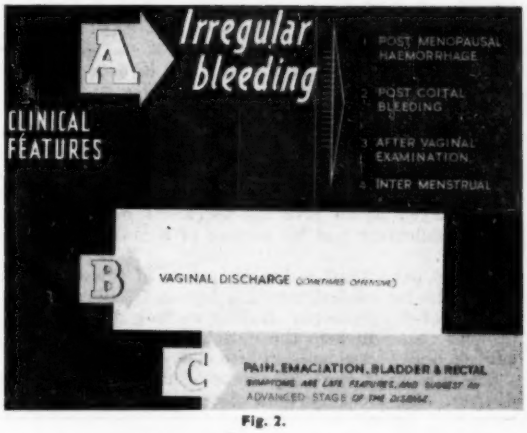


Fig. 2.

In this article we describe one type of visual display which we have developed and used in the gynæcological department during the past two years. It consists of a series of illustrated panels and 'Ektachrome' colour transparencies, together with histological sections. The particular display that we have chosen to describe here deals with cancer of the cervix and was the first of this type that we made. In the production of these displays a regular pattern is followed. The gynæcological staff decide upon a subject which they consider to be important and suitable for visual illustration. A general outline of the subject is agreed and one member of the staff is nominated to plan the demonstration with the artist. Once the relevant information has been passed to the artist a series of miniature panels is produced. These panels serve to stimulate the visual imagination of the clinician. At this stage the artist is concerned with the general layout of the display rather than with detail. With the miniature panels as a basis for discussion, artist and clinician meet at intervals and periodically submit their work to the criticism of their colleagues. A compromise agreement on the final form of the display is eventually reached.

The display is presented on light boards that form a frieze which may be erected on any suitable bench backed by a plain wall. We have fortunately been able to plan and equip a students' demonstration-room in the gynæcological ward in the Royal Victoria Infirmary. Displays are set up in this room (fig. 1) and left for several days at a time so that students can examine these at

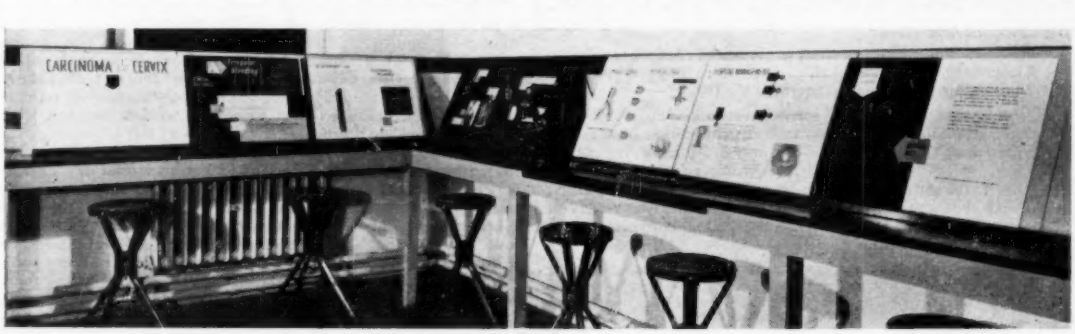


Fig. 1.

leisure. A close-up of one of the panels is shown in fig. 2.

DISCUSSION

In the clinical years the student is encouraged to develop his powers of observation; he is taught to observe before he examines the patient and has therefore a certain visual approach to his studies. The demonstration that we have described above is, in effect, a visual record of a lecture or lectures. Here, for the student to absorb in his own time, are the essential facts of a subject so displayed as to give the lecturer's own emphasis, his simplification and his editing of a mass of complex material.

We do not regard a demonstration of this type as a substitute for clinical teaching in wards, theatres, and outpatient departments. Rather we look upon it as an adjunct that will help the individual student bring the subject under consideration into clearer focus.

There is much work for the artist in preparing such a display. He must work in close coöperation with the clinical staff and absorb their teaching and intention before a logical presentation can be made. Skill in presenting facts in an arresting and absorbing way is essential. It is here that the artist shows his quality and gives the presentation of the display his personal character. This point, which may be overlooked, is independent of the teaching facts and is of the utmost importance to the success of the display as a visual teaching method.

These displays are considered to be semi-permanent and the facts can always be revised to keep in step with current research.

It is difficult to assess the true value of teaching aids such as the one we describe, but we have been encouraged by the interest and enthusiasm shown by our own students and also by the favourable comments of visitors to the department of gynæcology.

In the preparation of these displays we have received much advice and encouragement from Prof. Harvey Evers.

Reviews of Books

Sir William Arbuthnot Lane

An Enquiry into the Mind and Influence of a Surgeon. T. B. LAYTON, D.S.O., M.S. Edinburgh: E. & S. Livingstone. 1956. Pp. 128. 21*s*.

Arbuthnot Lane wanted to be a physician but changed to surgery because there seemed to be more opportunities on the surgical staff at Guy's. The physicians Moxon, Fagge, Wilks, and Pavy were strong and healthy and likely to live a long time, whereas every member of the surgical staff suffered from some condition likely to shorten his life. How wrong this prognosis proved to be!

"As a teacher, in the ordinary sense of the term, he did not exist. Examinational dogma was too foreign to his nature." He "initiated nothing. In all that he did he adopted, adapted, and extended the work of others." Perhaps his far-famed technique was really his own. The three subjects that interested him profoundly were cleft palate, fractures, and the colon. It was this last interest that led him into the realms of controversy and eventually caused him to resign from the medical profession in order to devote his declining years to the New Health Society. Mr. Layton describes this as "the first organised attempt at what we now call Social Medicine."

Lane had an extraordinary hold on those who had been his house-surgeons. Sampson Handley has written: "In point of technique Lane was the most perfect surgical workman I have ever watched. I do not refer to his 'no-touch' technique, though in the days before rubber gloves asepsis was impossible without it. Nor am I thinking of the set of long-handled instruments he invented to facilitate it. But when Lane was operating, no matter how difficult the operation, in his hands it appeared easy. No haste and no violence, but long easy strokes of the knife guided by profound anatomical knowledge, every stroke purposive, and the stage of sewing up soon arrived."

These extracts will perhaps suffice to illustrate the content of a book written, *con amore* and with his unquenchable zest, by an author as individual as his subject.

Diseases of the Liver

Editor: LEON SCHIFF, M.D., professor of clinical medicine, University of Cincinnati. London: Pitman Medical Publishing Co. 1956. Pp. 738. £5 10*s*.

KNOWLEDGE of the liver and its diseases had sooner or later to reach the stage when its comprehensive discussion would surpass the compass of one writer. This symposium on diseases of the liver is the work of twenty-seven authors, each an authority on his subject. The standard is almost uniformly high, and repetition and unresolved clashes of opinion are remarkably rare—the result, no doubt, of firm editing.

The subject is dealt with under twenty-six headings covering all aspects of hepatic anatomy, physiology, biochemistry, and pathology. It is difficult to select the choicest morsels among such an intellectual feast. Biochemical Considerations, by David Seligson, is a masterpiece of condensation, but despite the admirable diagrams might prove a little indigestible to those in a hurry. A particularly valuable feature of this chapter is its emphasis on the relation of biochemical knowledge to the manifestations of liver disease. W. S. Hartroft's account of experimental hepatic injury is an excellent review, covering both toxic and dietetically induced lesions. N. F. Maclagan's discussion of liver-function tests, and the chapters by G. Klatskin on toxic hepatitis and hepatitis associated with systemic infections, could hardly be bettered in the space.

This book deserves to be widely read and consulted.

Diagnosis of Congenital Heart Disease

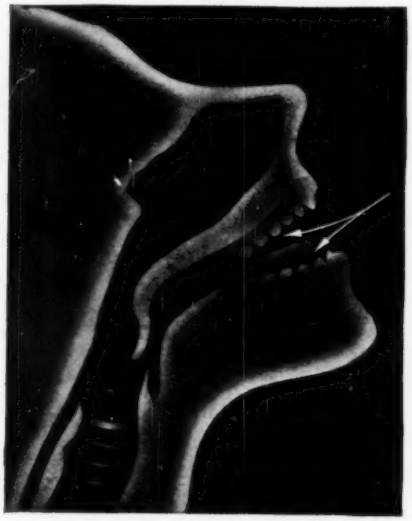
SVEN R. KJELLBERG, EDGAR MANNHEIMER, ULF RUDHE, and BERGT JONSSON, the cardiologic team, Pediatric Clinic, Karolinska Hospital, Stockholm. Chicago: Year Book Publishers. London: Interscience Publishers. 1955. Pp. 649. £8 5*s*.

IN Sweden angiocardiography for congenital heart-disease has been brought to an unequalled level of perfection. This has been due partly to the development of rapid film-changers working simultaneously in two planes, and partly to the development of technique. The most important single improvement has been selective angiocardiography, in which the contrast medium is placed near the area to be displayed, by means of a catheter. The information gained at the Karolinska Hospital in Stockholm has now been correlated with the clinical findings and other graphic investigations.

The book is based on the personal experiences of the authors in 396 cases of congenital heart-disease; and there is a very adequate account of the electrocardiographic, phonocardiographic, and catheterisation findings. The space devoted to electrokymography seems unduly large until the high standard of the curves and the information to be gained from them is appreciated. The clinical side is equally strong, and the descriptions of the physical signs are outstandingly good.

Cytology of the Blood and Blood-Forming Organs (New York and London: Grune & Stratton. 1956. Pp. 629. £7 14*s*.).—This is an almost word-for-word translation—and a very good translation too—of Dr. Marcel Bessis's *Traité de cytologie sanguine*.[1] The copious illustrations of the original work have been retained, but a few have been replaced by electron-microscope pictures from the more recent thin section preparations. The colour plates are somewhat reduced reproductions of those that appeared in Dr. Bessis's short book published in 1948. Dr. Eric Ponder, the translator, has done well to provide the *Traité* in English, because it describes many original observations and much material is collected together that is scattered through the literature. It shows quickly the sort of result that can be expected from the newer techniques using histochemistry or electron microscopy. But, as we said before, interesting though these new techniques are, they are of only academic interest to the clinical pathologist. It is the hæmatologist interested in the general pathology of blood-forming tissues who will wish to have this book on the reference shelf in his department.

1. See *Lancet*, 1954, i, 761.



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THE LANCET
LONDON: SATURDAY, AUGUST 25, 1956

Examinations

By the Medical Act of 1858 the General Medical Council was given statutory authority to ensure that registrable medical qualifications carry the knowledge and skill necessary for the efficient conduct of medical practice. A qualifying examination was therefore established as the final test of the candidate's competence to practise independently (and often in comparative isolation); and by the Medical Act of 1888 he had to qualify in three subjects—medicine, surgery, and midwifery. Since that time there have been enormous changes in general and hospital practice; and the conditions for registration have been changed too, notably by the Medical Act of 1950, which requires twelve months of house appointments under supervision. Yet the general form of the final examination is the same as it was sixty-eight years ago. There are differences in detail between the examinations held by the 27 licensing bodies, but, in all of them, equal importance is still given to the three major parts. "Finals" are now almost exclusively a test of factual knowledge, and are a poor guide to a candidate's true worth. Even in the practical part of the examination, the time available and the conditions under which it is carried out allow only a cursory assessment of methods of observation and thought. Of the written papers, PICKERING [1] has lately spoken severely: they "allow no choice of question, and they seem designed not to test a student's capacity to discriminate but his capacity to reproduce material learned from the pages of textbooks or the notes of lectures. The kind of question which is still current in the final examinations for university degrees in medicine is a question such as, 'Describe the symptoms, signs, complications, and treatment of ulcerative colitis.' What a comment on six years of university education!"

The influence exerted on the medical student by his examinations far exceeds any other that he may meet, and this influence directs him to gain factual knowledge. From the age of 11 he has lived under the threat of examinations, and as one follows another he usually comes to accept the view that the acquisition of facts is the primary purpose of study. Moreover, the only method of learning of which he has any experience is often that of committing to memory. There is little doubt that many students spend their lives alternately engaging in and resting from frantic outbursts of blind memorisation. For many, the longest period of rest coincides with the first half of their clinical studies. They have by that time passed the 1st M.B., which (unlike their personal qualities as judged by a selection committee) is the essential requirement for entry into medicine. They have also passed the strict filter of the 2nd M.B.; and many of them have shown such devotion to the bare facts of the examination subjects that they can have achieved little understanding of them and none at all of any other subject. They now have no further hurdle for at least eighteen months and often for two and a half years. Then they prepare for the culminating marathon of the "finals," which further distorts their understanding by its division into three or more subjects. Few people with experience of students have not heard such remarks as "I'm sure I've failed Medicine because my answer to that question on dehydration was just pure Surgery." Unhappily, this process of fragmentation is evident throughout the whole medical curriculum. Because the entire examination system has remained virtually unchanged, all additions to knowledge, all the fresh alignments of thought and practice, and all the new combinations between medicine and the other sciences have to be presented to the student in the same old watertight compartments created by the examinations of long ago. The 2nd M.B., in its present form, confines the study of preclinical sciences and bars their integration with clinical work; and the qualifying examination as effectively prevents continuity between undergraduate and postgraduate study.

There can be little doubt, therefore, that our present examinations exert an influence on medical education as unsound as it is powerful. It is unsound because it leads the student to learn facts in isolated blocks—and by the worst methods. As LANDELLS puts it,[2] our examinations misdirect the student's effort because they demand so many parlour-tricks. Their influence is powerful because they are almost the only method of assessment, and therefore upon them depends the chance to enter and stay in a medical school. Financial aid is very often given largely on examination results, and this puts an added emphasis on the examination as the paramount incentive in the minds of the many grant-aided students. The absence of other methods of assessment, and particularly of close personal observation of the individual student by his teachers, ensures the dominance of the examination system over student and curriculum and thereby is partly responsible for the unhealthy effects of that dominance. Improvement in the actual examinations and better timing of them cannot alone put matters right, but until these things have been done there will be little chance of any other improvement. This is the point at which the vicious circle of too many students seeking too much of an ever-increasing amount of factual knowledge must be broken.

One of the main reasons why the system, and particularly the qualifying examination, has never been changed is that many people have regarded it as a reasonably accurate form of assessment. Over the past few years, however, the evidence of its inaccuracy has mounted, and in this issue Professor BULL adds to it by describing the results of his careful investigation of the final examination in medicine at the Queen's University of Belfast. His findings show clearly that "there is a considerable element of error in the marking of long essay questions, but this error diminishes progressively as the questions are shortened." Such inquiries are valuable because they provide conclusive objective evidence for what has been obvious for a long time—namely, that there is a large element of chance in these examinations. The best students sometimes fail, and (what is more dangerous) the worst students sometimes pass. It is

1. Pickering, G. W. *Brit. med. J.* July 21, 1956, p. 115.

2. Landells, J. W. *Lancet*, Aug. 4, 1956, p. 246.

its inaccuracy as a method of assessment, coupled with the premium it puts on factual knowledge, that makes the final examination such an unreliable way of maintaining standards. The General Medical Council's view, put to the Goodenough committee,[3] was that the standard of professional practice essential for the safety of the public "depends much more on the efficiency of clinical and other teaching in medical schools than on any control which the Council can exercise by inspecting qualifying examinations." On the other hand, LANDELLS remarks [2] that present-day examinations make no use of a splendid opportunity to investigate the teaching which is being given: "they may be an examination of the students but they are not, as they should be, an examination of his teachers." The ability of the final examination to maintain standards is reflected in what happens to those who fail. Every year, despite the recent fall in the failure-rate in the London M.B., hundreds of medical students fail their finals. The vast majority of them pass six or twelve months later. In this period by which their education is extended, it is unlikely that much is done to increase the safeguards for the public. After failure, many students widen their clinical experience hardly at all and engage in more frantic memorisation. Some turn to the crammer, whose successes are based on intensive drilling in examination technique—a bitter mock of the examination and the whole system of medical education. In fact, the experience of the extra six months often lowers the student's standards and his morale; and this delay in qualification certainly proves baffling and expensive to the authority that is helping to pay his way.

Thus, failure in the final examination seems to do little to ensure the qualification of a better doctor six months or so later; but perhaps this is offset by the fact that students actually learn as the result of examinations. It is true that some do so, but in fourteen medical schools students still face external final examinations, and those who fail are as a rule completely in the dark about why. There is no objective evidence that external examinations make for more accurate testing and it is hard to believe that they help to maintain a uniform standard. If they do, then logically the sooner a national external qualifying examination is instituted the better. Meanwhile, failure-rates of up to 50% continue in some external finals: those who fail do not know why; the examiners know very little of the candidates' records of work; and the teachers are deprived of the help which this assessment of their students could give. A corollary to the high failure-rate is that many students take, as an insurance, the Conjoint diploma, piece by piece, during their last clinical year. ELLIS [4] has lately condemned this course, because it "not only adds to the financial strain, but also interferes seriously with the third year of clinical training; for the idea that students take these extra examinations merely for practice, without specific preparation and without undue concern, is, in my experience, largely a myth. There is no more lamentable facet of medical education in this country than the double external qualifying examination."

We can see few reasons, therefore, for retaining the present examination system. Fortunately it should not be hard to provide a better one. Changes must be directed along two lines. Firstly, the whole system must be closely integrated to the student's developing knowledge and practical ability during his training. Only thus can the examination be the servant of education rather than its master; and to be really effective the results of all the earlier examinations should be discussed with each student. So far as clinical work is concerned, the final examination should be one in the general principles of clinical medicine, but there should also be special tests in the essentials of diagnosis and the management of emergencies in medicine, surgery, and obstetrics, which could best be taken at the end of each relevant period of clinical work. Secondly, the examinations themselves should be made more accurate as a measure of a student's attainments. Professor BULL recommends "that more use should be made of the multiple-choice technique of examining, which eliminates marking error." This form of paper has been much used in the United States,[5] where it has proved effective as a means of comparing the knowledge acquired by students of different schools, and therefore, as a means of maintaining standards of knowledge. It is, of course, a method applicable to fact rather than to powers of discrimination, for which other tests must be applied. As Professor BULL says, it should not be opposed on the grounds that it "will cause the students to lose what little ability they have to write English." The hurried answers to the present essay-type questions can hardly be considered as serious practice in writing English prose. LANDELLS has suggested that a brief viva will divide those who are clearly competent from those who are doubtful, and that this lesser group could then sit a longer written examination.

Changes like these, combined with better coördination of examinations and studies, would make things less exacting for both student and examiner and should give a more accurate picture of a student's capacity to learn, while retaining the value of examinations as an incentive to work. They will not, however, give much idea of the candidate's powers of observation and thought. These can be effectively measured only by close observation of the student at work—ideally, when practising under supervision with some responsibility. No such opportunity now arises except during the preregistration year, after the final examination, so that a big change in the present curriculum is necessary—and many would add urgently so.[6] The recent pleas for elasticity in the curriculum made by the Royal College of Physicians and others are peculiarly relevant. PICKERING [1] has said that "any attempt at defining a medical undergraduate course is necessarily a compromise, and a purely arbitrary one. There are many ways to Rome. We shall never find out the best way so long as all pilgrims are forced to take the same path." The curriculum must be relaxed before other paths can be tried. Standards could be as effectively maintained as they are at present if the General Medical Council were to adopt the suggestion of control by inspection of medical schools, and if the "Council's inspection of a medical

3. Report of Interdepartmental Committee on Medical Schools. H.M. Stationery Office, 1944.
4. Ellis, J. R. *Lancet*, 1956, i, 816.
5. Sinclair, D. C. *Ibid*, 1953, ii, 947.
6. See *Ibid*, 1955, ii, 425; and also proposals of the Royal College of Physicians of London, *Ibid*, 1956, i, 437.

school's examinations should henceforward be part of their inspection of the medical school itself." [7] In this way a school could make full use of progressive assessment by the teacher's own observations, which is now successfully used in the best American universities—often with very little in the way of supplementary examinations. It is notable that, under these conditions, students work harder as well as more profitably; for the weaker incentive from fear of examinations is more than balanced by the stronger spur from increased interest in their work.

It must be borne in mind that some American schools have demonstrated the unfortunate results of relying on innumerable tests. This is important because the impression has grown up in this country that the examination is the only assessment and the only incentive: "Examinations are the only effective way to make the average student take a subject seriously."[8] There can be but poor training while such views dictate policy. When we have got beyond this outlook, education in its true sense should be possible, and it may even be that the final examination could include an honours paper, with a choice of questions enabling the candidate to show his powers of reasoning and discrimination. Meanwhile, we must remember that the results of our present system can be little improved even by the most enlightened examiners. So long as there is no limit to the factual knowledge covered by the examination, the strongest impetus in medical education will not be what the examiners know they are seeking but what the students believe the examiners are seeking.

Annotations

MEDICAL ETHICS EXPLAINED

IN this country, contrary to popular belief, only a minority of doctors have taken the Hippocratic Oath or have given any similar pledge. But, especially abroad, many universities now ask for an explicit affirmation; and at Witwatersrand, for example, medical students entering their second year must subscribe to a declaration of professional secrecy.

The student (or his senior) who wants a guide to medical ethics could not do better than read the small book in which Prof. G. A. Elliott of that university recently set out the ethical codes of the world, and explained how they apply in everyday work.[9] His guide to medical ethics has, as he says, a South African flavour; but its subject is universal, and so is the wisdom he offers. Effectively, he makes once more the fundamental point that the main purpose of ethics is to ensure the patient's welfare (regardless of the doctor's convenience), and that the patient's welfare demands the right relationship not only between doctor and patient but also between doctor and doctor. "A doctor ought to behave to his colleagues as he would have them behave to him," says the International Code of Medical Ethics, and so should a student. Professor Elliott's own philosophy is illustrated by his concluding remark that, even though we may fall far short of our ideal of service, "to act in accordance with the traditional ethics of medical practice is its own reward."

7. A Report of Medical Teaching Committee of the Royal College of Physicians of London. See *Lancet*, 1955, ii, 132.
8. Curran, D. *Brit. med. J.* 1955, ii, 515.
9. Medical Ethics. By G. A. ELLIOTT, professor of medicine in the University of Witwatersrand. Johannesburg: Witwatersrand University Press. 1954. Pp. 55.

EXPERIMENTS ON STUDENTS

THE big advances in chemical pharmacology and the enthusiasm for new antibiotics mean that more and more drugs have to be tried and more and more human beings have to be found to try them on. The use of medical students as subjects for this kind of research has lately been discussed by Mogey and Watkinson.[1] They point out that animal experiments do not take us very far, because animals may tolerate drugs which, in comparable doses, are poisonous to man; for instance, rabbits can eat with impunity both the death-cap fungus (*Amanita phalloides*) and the deadly nightshade (*Atropa belladonna*) in amounts that kill man. Moreover, animals are poor witnesses even compared with the least communicative medical student. Mogey and Watkinson recruited students during lectures, and in their paper they very properly consider the ethical questions. They point out that to approach each student privately might make it embarrassing for him to refuse, whereas general appeals, made to a gathering at a lecture, avoid any individual pressure. The volunteers were asked to tell their parents about the proposal, and those under 21 had to obtain their written consent. Those who volunteered seemed to do so partly to gain first-hand experience of research, partly as a diversion from humdrum existence, and partly from a desire to benefit the community. It is important that this praiseworthy goodwill of medical students should not be exploited and, as the World Medical Association says in its memorandum, "every step must be taken in order to make sure that those who submit themselves to experimentation be fully informed. The paramount factor in experimentation on human beings is the responsibility of the research worker, and not the willingness of the person submitting to the experiment." On the other hand, if the use of volunteers is restricted by elaborate rules, inspections, and consent forms, clinical research might be hampered.

Experiments on our fellows are, strictly speaking, forms of vivisection; but the restrictions applied to animal experiments need not be imposed in the case of healthy human beings who can understand what is happening and can judge for themselves. The important thing is that they should be told exactly what the experiments involve and just what the risks are. And we agree with Dr. Ryle who lately suggested [2] that all reports of experiments on human beings should record that the subjects were volunteers and say how they were enlisted. Concern about such matters was also reflected in a letter from Dr. Dyke,[3] in which he said that the Association of Clinical Pathologists' standing committee on professional affairs and ethics, being anxious to protect human rights, has outlined a procedure to be followed in securing the coöperation of volunteers, with special reference to nurses and medical students.

There are other problems raised by the use of healthy medical students. The results may not be the same as in ill patients; the volunteers are not representative of the general population; and their knowledge of drug actions and toxic effects may influence experimental results, however carefully controlled. For instance, in observing toxic effects, an educated student on the qui-vive for any untoward sensation is far more likely to notice a side-effect than a patient seeking relief from a symptom. In assaying the power of analgesics, the psychological attitude to artificially produced pain is wholly different from the outlook on pain caused by disease: it is free from the resentment or frustration of organic pain and offset by the curiosity of self-

1. Mogey, G. A., Watkinson, G. *Univ. Leeds med. J.* 1956, 5, 63.
2. Ryle, A. *Lancet*, 1956, i, 1014.
3. Dyke, S. C. *Ibid*, July 7, 1956, p. 46.

experimentation and the sensation of mild heroism accompanying deliberately accepted pain.[4]

Nevertheless, in determining physiological actions and toxic effects, experiments on students are invaluable in the preliminary assay. Dare and Mogey [5] have described an experiment on students to determine whether the atropine-like drug tricyclamol and its related compounds can significantly decrease the volume and acidity of gastric juice without unpleasant side-effects. Their findings suggest that two of these drugs are sufficiently active in this way to justify further experiments. It is important to realise that this type of experiment is only a preliminary: however great the inhibition of gastric juice, the proof of the pudding is in the pain after eating. The aim of the drug is to relieve ulcer pain and to promote healing. This demonstration of its effects on gastric juices answers the question "should it work?"; but the more important question "does it work?" remains.

IDEAS AND IDEALS

In the United States, medical schools have been quick to seize post-war opportunities to try new ways of teaching medicine; and, though the things that have been successfully done there would not necessarily work out so well in the different setting of this country, there are clearly useful lessons to be learnt by British schools from a continued study of these American innovations. In some of our recent educational issues there have been reports and discussions [6–9] of various aspects of the changes that have been made in the United States; and we have encouraged medical teachers in this country to examine some of these ideas more closely and to go ahead with plans of their own—particularly in the matter of revising the curriculum.[10] Meanwhile, it is helpful to have further impressions of the American scene, and these have lately been provided in an able report [11] prepared by Dr. J. R. Ellis for the Royal College of Physicians.

In a two months' tour, made with the help of the Rockefeller Foundation, Dr. Ellis went to some 15 medical schools and had detailed discussions with representatives of 5 others. In each school he tried to learn its educational objectives and policy and its general plan of training, to see as much of this plan in action as possible, and to study particular techniques of teaching. He tried to assess things more in terms of objectives than by comparison with British schools or methods. He found general agreement that the undergraduate training should be a sound preparation for every form of medical practice and cannot be a complete preparation for any. American teachers agree that no attempt should be made to cover the whole content of medical knowledge in the undergraduate curriculum and that the study of clinical specialties must be limited. One of Dr. Ellis's most interesting observations was that he thought more teachers in America than in Britain looked on medical education "as an entirety." On the other hand, American students, like their British counterparts, seemed to want to cover the whole of medical knowledge and learn "all the facts."

The report speaks of a strong and very general feeling that the task of the teacher is not so much to impart knowledge as to inspire and guide the student to bring his own intelligence, previous education, industry, and character to bear on rewarding scientific and clinical problems; "to ensure that each reward is achieved and to ensure that the student acquires the ability to learn and the interest to go on learning after qualification." It is to the energetic acceptance of this slightly idealistic outlook that Dr. Ellis attributes the most striking post-war changes in the schools he visited. This outlook means that the new techniques of teaching are basically a return to the oldest technique of apprenticeship; and the major reorganisation of curriculum and of staff aims at achieving, particularly in clinical work, a teaching unit comprising one teacher, one patient, and one student. As Dr. Ellis points out, such a unit is most commonly found in this country in the department of anæsthetics. This attitude to the teacher's task is very different from the one which says "the good student will do all right whatever happens, but our job is to drum the essentials for safety into the idle and the weak." It puts heavy responsibilities upon the teacher; and what impressed Dr. Ellis most in America was the number of teachers who were prepared to accept them[12]—at an obvious financial disadvantage to themselves.

In the teaching of the basic medical sciences, Dr. Ellis finds that the standard pattern is a first year covering the normal structure and function of the human body and a second year directed to the conditions that interfere with physiological function and to the changes they produce. In both anatomy and physiology there is little attempt to teach detail. The second year ends with an introduction to clinical method. The results of this plan seem good: students acquire and maintain an interest in the subjects; they seem to learn for themselves, and to want to do so, rather than engage in feats of memory.

Undergraduate medical education in the United States is aimed at education rather than training; and Dr. Ellis thinks that, in paying so much attention to the educative processes, teachers have not fully realised that technical training must have a place, and the place must be in the early years.[12] This weakness was most noticeable in the biggest schools, especially those which aim to give a particular orientation to the training. Paradoxically, in American schools which set out to train undergraduates for a special occupation, so much emphasis was placed on education that vital techniques were rather ignored.

The most important concept of clinical teaching is, in Dr. Ellis's view, the Western Reserve plan of attaching the student to a tutor, from whom he goes to consult the specialists.[13] In his article on p. 375 Dr. Ellis discusses further the merits of the tutorial system as a means of helping medical students to learn for themselves. The system, he believes, need not require an impossible number of teachers, nor should they all be full-time; but some at least should be members of the senior staff and all must give high priority to this side of their work. The tutorial system was introduced into clinical medicine at Oxford eight years ago, and there, as Dr. Reynell puts it in his article in this issue, "its superiority to other forms of teaching is considered too obvious for discussion in intelligent circles." But he later observes that the success or failure of the individual tutorial system (and, it might be added, of every device of medical education, in whatever country) depends on the mental calibre of students and teachers. Efforts to improve the balance of the curriculum and to find fresh ways of arousing students' interest in it are clearly welcome; but they can never be really successful if we fail to find means of encouraging more of the best students to study medicine and more of the best teachers to teach it.

4. Asher, R. *Ibid*, 1948, ii, 771.
5. Dare, J. G., Mogey, G. A. *Univ. Leeds med. J.* 1956, **5**, 67.
6. Cruickshank, R. *Lancet*, 1952, ii, 394.
7. Sinclair, D. C. *Ibid*, 1953, ii, 463.
8. Pemberton, J. *Ibid*, p. 469.
9. Agnew, L. R. C. *Ibid*, 1954, ii, 422.
10. *Ibid*, 1955, ii, 425.
11. Fourth Interim Report of Committee on Medical Teaching. Royal College of Physicians of London, 1956.
12. Ellis, J. R. *J. med. Educ.* January, 1956, p. 42; see *Lancet*, 1956, i, 370.
13. The Western Reserve experiment is described at some length in an appendix to the report.

Points of View

THE OUTLOOK FOR THE SURGICAL APPRENTICE

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Grim, Sir.

The field is constantly widening, results are increasingly satisfying, and a good minimum income has been established. But permanent posts are hard to get. More surgery is being done by relatively fewer surgeons. Survival during the years of training is easy, but final survival has never been so difficult since trainee posts have multiplied out of all proportion to consultant vacancies. Furthermore there is a broad gap between the specialty and general practice which means that there is little prospect anywhere for the unsuccessful, though able, surgical trainee.

These are the facts facing the surgical apprentice of today, and the National Health Service has been functioning long enough for us to reassess its most affected category.

A consultant finds it difficult to visualise accurately the changing problems of the young man. The majority of apprentices are in a trough of pessimism, and the closeness of the difficulty makes objectivity impossible. My own claims to objectivity are that I am an Irishman who has had surgical training under the liberal scheme in England, that I have had more than my fair share of good fortune there, and that I am now, temporarily, away from the scene.

The road has always been long, hard, and uncertain. It is probably no longer or harder than of old. But it was never more uncertain. One can now reach the top of the apprenticeship ladder after ten to twelve years of toil and yet fail to attain consultant status. This means one cannot practise surgery. There is no precedent in any other profession, where a man spends a decade learning to do something so intricate and beneficial only to be told that he cannot continue to do it.

This will deter few, and perhaps this is as it should be. "Plenty of room at the top" will be the cry. The top is the very place where there is no room in surgery. The middle was well filled in the immediate post-war years, and the health service has abolished the bottom. There are going to be too many doctors, and it is not really surprising that there are too many aspirants for surgery, one of the plum jobs in medicine. Surgery is one of the most exciting, interesting, responsible, satisfying, and worth-while professions in the world, and now it pays over £3000 per annum with six weeks' paid holidays. No wonder Queen Square is impassable.

THE REGISTRAR YEARS

To calculate the number of disappointed surgical aspirants in the country would tax the resources of Professor Bradford Hill, but only those who have passed the fellowship can be considered true competitors. Primary fellowship is a necessary evil which eliminates stragglers—i.e., approximately 80% of the field each time—and solidifies basic science knowledge almost as a by-product. Some time after his success here he pays his first state visit to Lincoln's Inn Fields displaying the famed formula, "a clean white collar and a willingness to learn." At last ("One, three, five, eight and thirteen are the lucky numbers," a gloomy seventh-time-up man once told me) he earns the right to be called Mister and the real contest begins.

The fellowship is a licence to become a registrar or an R.S.O. at a large surgical hospital. The choice of this post is a vital one. Registrar is a "critical" rank. About a third will go on to senior registrar status, and of those "it is planned" that 75% shall become consultants.

A surgical registrar considers himself a trainee, and a good registrar post is one in which there is good training to be had. Training means adequate supervision. Finishing off operating-lists and coping, solo, with emergencies at 2 A.M. do not in themselves constitute a training programme. Many are being taught by those who are no more than adequate themselves and have little to pass on but the fading memory of some rationalised major errors. "Water does not flow uphill."

The second point about a good registrar position is that it should hold a reasonable prospect of promotion to senior-registrar status. Unfortunately this often depends less on individual ability than on the circumstances of the post. One way of finding out about this matter is to tactfully inquire what happened to the previous two registrars. One of them may not have been up to scratch, but if they both failed to gain the next step of the ladder it is wise to consider this fate for oneself. Understandably this criterion, if adopted, would be a serious matter for the peripheral hospitals, where registrars are most needed.

Part of the solution would be to farm out all registrars at teaching hospitals for one of their two years' training. This type of scheme is at present operating for many senior registrars, and if extended to the lower rank it would help in the staffing problem and give those involved an idea of the type of experience necessary for work in a community smaller than the university centres. These community hospitals are the very places in which the majority of successful aspirants will eventually work. The students will benefit too, as the teaching will be more practical than it would have been if all the time had been spent in the "Big Smoke." Another point in favour of this scheme is that more candidates would be truly eligible for senior registrarships when these arise. Senior registrars in teaching hospitals tend to be "homegrown" and are often elected to fulfil a sense of responsibility to those trained in the school and hospital. This inevitably weakens the "stock" in certain institutions.

Once appointed, the senior registrar can sit back for three years and write bulky letters to hospital management committees in his fourth. He has long since resigned himself to the fact that there won't be a vacancy at St. Elsewhere's for years. He has never thought of himself in the Potteries or the Black Country, but that is where he is most likely to be needed. When a post comes up at Elsewhere Royal Infirmary he reluctantly posts an application and is chagrined beyond words when he is not even interviewed. Another few months and many typing hours later he is in for Elsewhere General, slightly grimier ("the old Municipal, you know") but on its way up, and is beaten by an M.S. If he is one of the lucky ones our chastened surgeon gets a post one day. It's not what he expected but . . .

ACCELERATION ON THE CONVEYOR-BELT

Can a young man (I choose my noun carefully) hope to alter his pace along the conveyor-belt of surgical training? He knows that many will not reach the end of the line, and if he is wise he gives a lot of thought to tactics. The fellowship is his most immediate objective and is a really concrete one. So many take courses, either whole-time or part-time, that the candidate who does not is at a distinct disadvantage in what has become, in everything but name, a competitive examination. The chronic failure has more than likely put in his two valuable years as registrar when he passes, and in this way is at a disadvantage.

The apprentice in general surgery should endeavour to spend some time in a definite specialty within the scope of his chosen field. He should try to gain some special experience in genito-urinary, thoracic, rectal, plastic, pædiatric, or neurological surgery. The more remote his eventual appointment the more likely this extra training will be needed, and a smattering of these subjects is useful even if it only inculcates one's limitations. It is possible for most to become proficient in endoscopies, and I would put in a special plea that he learn something of the technique and refinements of local anæsthesia—a sadly neglected art, the safety of which is often sacrificed to speed.

The emphasis on technique seems to be slackening, but there is still no excuse for the registrar who wants to do gastrectomies but cannot tie a sound knot with either or both hands.

The present-day ease of access to all bodily cavities has blunted judgment, and the old axiom "Can I do nothing?" is worth reviving. However, one must make the decision not to operate from strength rather than from weakness. Proficiency is essential: speed and brilliance are doubtful assets. "Preserve me from the brilliant surgeon," said Moynihan.

Osler has words of advice for the surgical apprentice. He emphasises the importance of the first quinquennium and admonishes him to "put his affections in cold storage for a few years and take them out, perhaps a bit mellow, but certainly less subject to those frequent changes which perplex so many young men." "Wives and children are hostages to fate and impediments to great enterprises," said Bacon, and becoming a senior registrar nowadays is indeed a great enterprise.

Publications are a great asset to the climber. Not all of these are expected to be revolutionary, but they are evidence of industry and energy and show that the candidate really wants to get on. They give an indication of how he spends some of his time after six o'clock as they are essentially products of working in electric light. The proviso I would make is that each article be considered with the question "Will I be proud of this in ten years' time?" at the back of the mind.

The personality of the aspirant is of vital importance, and the choleric, instrument-throwing, swearing surgeon of other years is a thing of the past. Osler says that *Æquanimitas* is one of the master words of medicine—Work is another—and it is possessed by all too few. The opposite of equanimity is not vindictiveness or volatility but irritability. Irritability is the curse of the operating-room. "How to win friends and influence people" might be added to the unofficial fellowship curriculum.

The most important aspects of his character are the most difficult to assess. Integrity, judgment, and diligence do not lend themselves to any sliding-scale of evaluation, and it is here that the interview system is at its worst.

"NO PROGRESS"

Those who make no progress should seriously examine the hypothesis that while they may have many good qualities they have not the required ones for specialist work today or tomorrow. Many have been tempted to continue "training" because they were held in high esteem at an outlying hospital functioning in friendly and uncritical fashion. Their qualifications break down in the calculating analysis of the selection board.

What should happen to senior-registrar posts from which occupants have consistently failed to get consultant appointments? Here a beginning might be made by making a list of such appointments for discussion with the regional hospital board. Indeed it is a subject in which the B.M.A. might interest itself, and it would certainly stir up the authorities locally if not generally.

And are there two hundred general surgeons in the country today worthy to train a man for four years? Older men might consider to whom they might send their sons and be sure that they would not in one year have 90% of what the preceptor had to give them. The four-year period is too long, and it would be a simple matter to make it two contracts of two years where the present rotating system between teaching and peripheral hospitals does not operate.

Perhaps the most serious problem is the prospect, if that is the right word, for the man who has failed to make the grade. He is usually in his thirties, and having quickly dismissed for one reason or another the possibilities of going into the Forces ("I've had enough of *that*") or into the Colonial Service ("no good for the kids and Jennifer wouldn't like it") he tries to get into general practice. Here he is at a distinct disadvantage. An M.R.C.P. or an M.R.C.O.G. is an advantage in general practice, but even the most enlightened group hesitate to employ a surgeon. Few make the transition smoothly, and even if they do find a place the majority are unhappy in it. Even the most balanced man is somewhat frustrated at having to abandon his carefully learned craft.

CONCLUSION

This is a side of the outlook for the surgical apprentice. Perhaps I have made it appear too grim. Darwin took careful note of those facts which did not coincide with his theories, knowing that the other side of the story springs to mind but too easily. For many the attractions of the specialty are so great that a calculated reminder by one who has not lost a whit of his enthusiasm may not go astray. Besides it will deter no-one who really wants to become a surgeon.

Special Articles

ENGLISH FOR DOCTORS

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STYLE is not wholly mysterious. Elegance may be a gift of the gods, but most people can learn to write passably if they want to. The main elements in a good style are accurate spelling, the use of words in their correct sense, the avoidance of certain undesirable words, and above all brevity. This means using as few words and as short words as possible; it also means writing short sentences—a great help to quick understanding. To write briefly is to be concise in relation to the matter in hand; it has nothing to do with absolute length; a book may be written concisely, and the shortest of articles may be verbose.

In medical writing, the chief obstacle to brevity is the traditional use of a Latinised form of English, which every medical student picks up from his textbooks. The Latin style is not inherently evil; clearly there is no alternative to it for writers of French and the other Romance languages; but writers of English have a choice between the Latin style and the more concise native English style that always uses the shortest suitable word.

The Two English Vocabularies

English has two vocabularies. One is Germanic, consisting of native English words and loan-words from other Germanic languages; the other comes mainly from Latin. As a result, there are two ways of saying anything in English. The classic illustration is Dr. Johnson's:

It has not wit enough to keep it sweet.
It has not vitality enough to preserve it from putrefaction.

The second version could be further Latinised:

It possesses insufficient vitality to preserve it from putrefaction.

—a sentence that would be at home in any textbook of pathology.

These three sentences show that increase in Latin means increase in length; more syllables are needed to express the same thought. There is no objection to the use of technical terms derived from Latin (or Greek), provided there is no suitable native English equivalent—"inflammation," for instance, which could not be acceptably replaced by "kindling." What is open to criticism is the use of Latin-English forms when there are acceptable native equivalents—for example, "the majority of" instead of "most." When there is a choice, the shorter word is often Germanic; but the most important point about a word is not its ancestry, which may be clear only to experts, but whether it is the shortest suitable word for the writer's purpose.

Saving Space

The following lists show how much space can be saved by using the shorter word or phrase.

SHORT WORDS FOR LONG

A short word can often replace a long one:

accordingly	therefore	happy	glad
acquire	get	hence	thus
affirm	say	however	but
allege	say	identical	same
alteration	change	indicate	show
appear	seem	inferior	poor
approximately	about	intimate [verb]	say
arrange	plan	inquire	ask
assert	say	invariably	always
attempt	try	invite	ask
aver	say	location	site
claim	say	maintain	say
commence	start	necessity	need
commonly	often	nevertheless	yet
concerning	about	numerous	many
consider	think	observe	see
consequently	therefore	obtain	get
constitutes	is	occasionally	sometimes
contend	say	opportunity	chance
declare	say	organise	plan
demand	need	particulars	details
demonstrate	show	persist	last
difficult	hard	place	put
disclose	show	previously	before
discover	find	present [verb]	show
dubiety	doubt	provide	give
elevated	raised	regarding	about
employ	use	remuneration	pay
encounter	see	render	make
endeavour	try	require	need
enumerate	count	reveal	show
evident	clear	state	say
exhibit	show	sufficient	enough
express [in words]	put	subsequent	later
extremity	limb	subsequently	after
frequently	often	terminate	end
furnish	give		

A WORD FOR A PHRASE

A word can often replace a phrase:

a considerable amount of	much
a considerable number of	many
a decreased amount of	less
a decreased number of	fewer
adjacent to	near
a great deal of	much
a large number of	many
a large proportion of	much
a minority of	some
an adequate amount of	enough
an increased amount of	more
anterior aspect	front
a number of	several
at a rapid rate	rapidly
at no time	never
at some future time	later
at the present time	now
at the time when	when
a variety of	various
be in favour of	support
be of the same opinion	agree
be present in association with	accompany
be responsible for	cause
be the seat of	show
bring about	cause
call for	need
causal factor	cause
cells of the mononuclear type	mononuclears
come to the conclusion	conclude
come to the same conclusion	agree
conflict of opinion	disagreement
decreased in length	shortened
decreased in thickness	thinned
decreased in weight	lighter
decreased in width	narrowed
encountered more frequently	commoner
fatal outcome	death
focal areas	foci
for the most part	mainly
for this reason	therefore
gain entrance to	enter
give an account of	describe
has a tendency to	may
in a considerable number of cases	often
in a lateral direction	sideways
in a paravertebral position	paravertebral
incline to the view	think
in close proximity to	near
in considerable quantities	abundant
increased in length	lengthened
increased in size	enlarged
increased in thickness	thickened
increased in weight	heavier
increased in width	widened
inferior aspect	bottom
inferior extremity	leg
in many instances	often
in most cases	usually
in rare instances	rarely
in some instances	sometimes
in sufficient quantities	enough
in the affirmative	yes
in the negative	no
in the neighbourhood of	near
in the not too distant future	soon
in the place where	where
in the vicinity of	near
is capable of	can
is characterised by	shows
is suggestive of	suggests
is unable to	cannot
it is true that	true
lateral aspect	side
meet the case	do
not in accordance with the facts	false
not often	seldom
of a mild nature	mild
of common occurrence	common
of considerable duration	lasting
of considerable importance	important
of considerable size	large
of frequent occurrence	common
of infrequent occurrence	rare
of long standing	old
of the chronic type	chronic
on a future occasion	again
on a previous occasion	before
on no occasion	never
on numerous occasions	often
on one occasion	once
on the part of	by
on two occasions	twice
place a major emphasis on	stress
posterior aspect	back
present only in small numbers	scanty
presents a picture similar to	resembles
prior to	before
put one in a position to	enable
quite a large quantity of	much
sufficient numbers of	enough
superior aspect	top
superior extremity	arm
the predominant number of	most
the vast majority of	most
to all intents and purposes	virtually
try out	test
unanimity of opinion	agreement
undergo transformation	change
what is the explanation of ?	why ?
with regard to	about

SHORT PHRASES FOR LONG

A short phrase can often replace a long one:

an excessive amount of	too much
an inadequate amount of	too little
an inch in breadth	an inch broad
an inch in length	an inch long
a small number of	a few
assume the erect posture	stand up
assume the recumbent posture	lie down
at a distance from	away from
at frequent intervals	at short intervals
be located on	lie on
cases of short duration	acute cases
commonly occurs	is common
diversity of opinion	many views
find the presence of fat	find fat
have the appearance of	look like
has a course of long duration	is chronic
in almost all instances	nearly always
it is generally believed	many think
occasional cases	some cases
of constant occurrence	always present
of sufficient size	large enough
on account of	because of
particular attention	great care
remote contingency	small risk
shows pallor	is pale
the general opinion is	many think
the present author believes	I think

NEEDLESS PHRASES

In phrases of the "red in colour" type, the whole of the information is given by the first word, the last two merely wasting space:

basophilic in staining	patchy in distribution
circular in outline	protracted in course
complex in character	proximal in direction
diffuse in arrangement	radial in disposition
eccentric in position	round in shape
globular in form	severe in nature
hæmorrhagic in appearance	smooth in texture
insidious in development	soft in consistency
large in size	tall in stature
mesenchymal in origin	three in number
mild in degree	undulating in contour
next in order	

In phrases of the "of complex character" type, the whole of the information is given by the second word; examples need not be given, since many "red in colour" phrases can be rewritten in this form. In both forms, the adjectives given above are words of full meaning. Some adjectives do not make sense unless further defined—for example, abnormal, equal, irregular, normal, regular, unequal, uniform, variable; one must of course write "normal in size" or "of normal size."

Words to Avoid

Also is a weak start for a sentence: "Also, many cases show." It would be better to write: "Moreover, many cases show" or "Many cases also show," according to the meaning.

Ambiguous words.—"Apparent" may be taken to mean either (1) only seeming to be, or (2) obvious; "An apparent discrepancy" may mean "There seems to be a discrepancy, but in fact there is not," or "There is an obvious discrepancy." "Over-all" may mean either general or total; one of these words should be used instead.

Basic is overworked: basic sciences, basic doctor, basic patient, basic student, basic principles. Principles are of necessity basic, and the adjective is superfluous; sometimes it could be replaced by average, ordinary, or fundamental.

Biopsy.—Not the word but its misuse is to be avoided. A biopsy is an examination of tissue removed surgically. It is not a surgical operation, or a piece of tissue removed at operation. Biopsies are performed by pathologists, not taken by surgeons. It is superfluous to speak of "biopsy examination" for the word "biopsy" implies an examination. There is no objection to the phrase "biopsy specimen," meaning surgically removed tissue examined or to be examined by the pathologist. "Needle biopsy" means a biopsy on tissue removed by a particular form of surgical instrument.

Break down is less specific than "analyse," which should be used with reference to figures or other data.

Calyx is not a variant spelling of "calix," but a different word; the word wanted for the kidney is "calix."

Case should be used only if "patient" will not do.

Clichés

A step in the right direction.
Beneath a rough exterior he hid a kindly heart.
He endeared himself to all with whom he came in contact.
My attention has been drawn to . . .
No account of *x* would be complete without *y*.
The family history was non-contributory.
The normal architecture is lost.
The patient went rapidly downhill.
We shall never look upon his like again.

Fashionable words and phrases.—Climate of opinion, within the context of, working-party, beddage, blueprint, expertise, hospitalise, mystique, panache.

Former and latter.—On meeting either of these words, the reader is pulled up with a jerk. To find out what "the former" is, he must re-read one or more of the preceding sentences; and he must re-read them again to identify "the latter." It is probable that few readers bother to carry out these researches, and that for most readers the author has written in vain. "The former" and "the latter" may have become popular because of a prejudice against repeating a noun; the prejudice is irrational; the noun should always be repeated for the sake of clarity.

Marked often adds nothing to the meaning. If any adjective at all is needed, it should be more informative, like clear, noticeable, or severe.

-Omegaly, -opathy, -osis.—Words with these endings are used to excess. Acromegaly is the name for the disease, and splanchnomegaly is a concise term for a group of its manifestations; but hepatomegaly and splenomegaly are merely pompous for enlargement of the liver and spleen. Specialists may have a use for such terms as encephalopathy, neuropathy, nephropathy, myopathy, and uropathy; but mastopathy is simply grandiloquent for chronic mastitis, and lymphadenopathy means nothing more than enlarged lymph-glands. Reticulosis is one of the vaguest medical terms; anyone using it should say exactly what he understands by it.

Pathology should not be used if what is meant is "lesion."

Superfluous Phrases

I have no hesitation in saying . . .
In my opinion . . .
It is interesting to note that . . .
It is to be noted that . . .
It should be emphasised that . . .

Superfluous words.—Actual (except in contrast to ideal or imaginary), definitely, distinctly, &c. (no-one can guess what the *cætera* are), respectively (as in "The patients were aged 3 and 5 respectively"), somewhat.

Towards Better Writing

The needless words listed above are not rarities culled from a few authors; they are the current coin of medical writing. This is not surprising, since the medical curriculum is a prolonged systematic course of training in verbosity. The faults are of course involuntary, for no writer is willingly verbose, ambiguous, or obscure. A general improvement is likely only if writers take more interest in catching readers, who can be won only by deliberate effort. A writer should always be aware of his audience and suit his writing to their knowledge, experience, and understanding. Some papers seem to be addressed to no-one in particular; they are soliloquies that passers-by may overhear, but imperfectly understand. The heart of style is consideration for the reader, and it is not for nothing that style has been defined as good manners in writing.

It is only when collected and classified that needless words are clearly recognisable for what they are—word rubbish, enfeebling expression, diluting or clouding thought, wasting the reader's time, and adding pointlessly to the vast mound of medical literature. The lists are not exhaustive, and could not be; they are merely samples of an acquired preference for polysyllables. The possibilities of creative circumlocution are boundless; a long way of saying anything can always be found.

Not all the suggested alternatives may be acceptable; there may be better ones, or the original word or phrase may be preferred for some good reason. The suggestions are certainly not meant to be adopted slavishly; their purpose is simply to make clear that in writing there is a long and a short of it. A writer who wants to improve his style should always be asking himself whether there is a shorter and simpler way of saying what he wants to say.

Exercises in Criticism

As an exercise, the reader could examine any medical book or article taken at random, list the faults, delete the

unnecessary words, and calculate how much shorter the chapter or article could be made without any loss of information. It is best in the first instance to examine someone else's work, for other people's faults are always more easily spotted than one's own. If the reader is also an author, he could repeat the exercise on any uncriticised specimen of his own work. He may find it hard to detach himself from familiar phrases and modes of thought, and to look at his work objectively. If he finds his work good, he should show it to a competent critic and steel himself to the result.

Some writers are unaware of the need for criticism, or resent it, and publish without having their manuscripts vetted; as a result, their deficiencies are obvious to the whole world. A good writer would never publish anything that had not been operated on by word surgeons. To submit to their operations is not a sign of weakness, but an indispensable aid to style. Manuscripts should be criticised before being submitted for publication; neither editors nor publishers can be fairly expected to undertake or arrange for such exacting work.

Skilful criticism is virtually painless and evokes sincere thanks. The good critic makes as few changes as possible, and is careful not to impose his own style on his client—it is no part of the critic's business to rewrite in his own way. Nothing is more exasperating than officious, clumsy, or fussy criticism; medical writers sometimes have to endure this from critics ex officio without special literary qualifications. Few changes should be needed in a previously criticised manuscript; some may be essential to ensure conformity with the style of a journal—and editors are perhaps more conscious than authors of the needs of foreign readers, in particular of the necessity for full and careful punctuation.

No-one who strives to write briefly need fear loss or impairment of his individual style; words, long or short, are used by each writer in a unique personal way—the style is indeed the man. Far from hamstringing style, the use of short words will strengthen and energise it.

Literary Graces

Simple excision of needless words can result in an astonishing gain in clarity and cogency, and a medical writer may well rest content with that. This is not to deny that there are positive aspects of style, but the graces are better discovered in the finished work than achieved by artifice. Rhythm, the varying sequence of vowels and consonants, alliteration, variations in the length of sentences, inversion, contrast, and climax—all these go to the making of good and lively prose, and are obvious to the receptive ear and eye; but a practised writer achieves them unconsciously—they are spontaneous products of literary power and energy. After all, writing is an art, and no artist can say exactly how he produces his effects.

In medical writing, common experience has evolved many different conventional designs, each best serving some special purpose. There are distinctive designs for books, articles, editorials, annotations, book-reviews, case-reports, clinical notes, obituaries, and abstracts (comparable with the standard types of verse). These designs should be studied carefully by those who have to write. In all, aptness of words is the fundamental requirement, but in each there should also be due proportion in the various sections and paragraphs, and an orderly sequence of thought.

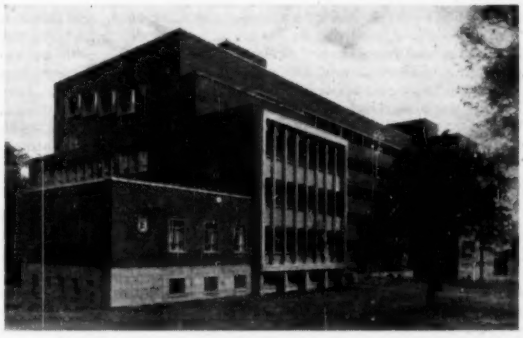
Probably the most troublesome problem today is the writing of summaries of medical articles. The space available is so small that it is tempting simply to say what the article is about—in effect to expand the title. But this does not satisfy a reader, especially if the summary is read, not at the end of the article, but isolated in a journal of abstracts. The correct solution is to give facts, even though they have to be few, about the material, methods, results, and conclusions; space can be saved at the beginning by not repeating any information given in the title, which is always available to the reader. If summaries were made more informative, they could be used just as they stood by journals of abstracts; at present, an army of abstractors is busy writing factual summaries that with a little effort could be written by the authors of the articles—in other words, summary and abstract should mean one and the same thing.

Letters to the Editor

UNIVERSITY OF NATAL

SIR,—I write from the new medical school for African, Coloured, and Indian students in the University of Natal, whose first graduates are expected to emerge in 1957. The school, shown in the accompanying figure, has been built alongside the King Edward VIII Hospital, for Africans and Indians, in Durban.

My purpose is to draw attention to the existence here of excellent research facilities with a vast supply of clinical material. The hospital has 1300 beds, and it



would be misleading to pretend that there are not seldom more than 1300 inpatients. However, this is visibly being remedied, and in any case the teaching units are not overcrowded. New wards, operating-theatres, X-ray and outpatient departments, and mortuary are all under construction by the Natal Provincial Administration, who run the hospital.

It would be difficult to imagine an institution which has more to offer both to those desiring clinical experience and to those wanting to do clinical research.

Some arbitrarily chosen figures for inpatients in 1955 will give an idea of the profusion of material (the figures, which include readmissions, are supplied by Dr. S. Disler, medical superintendent of the hospital):

Amœbiasis, all forms *	1901
Tuberculosis, all forms	2018
Tuberculous meningitis	86
Diabetes	188
Diphtheria	253
Epilepsy	202
Malnutrition, largely kwashiorkor	1275
Snake-bite	57
Typhoid	163

* There is a Council for Scientific and Industrial Research Amœbiasis Research Unit here.

I can speak at first hand only of the department of medicine, whither I have come, with the aid of a grant from the Wellcome Trust, from University College and University College Hospital Medical School, to work with Prof. E. B. Adams on the treatment of tetanus, but I have no reason to doubt that other departments are similarly endowed with material and facilities.

Department of Medicine,
University of Natal, Durban. D. R. LAURENCE.

In England Now

A Running Commentary by Peripatetic Correspondents

"THANKS to you, half my ward is all over spots and the other half peeling like the Dance of the Seven Veils," hissed Sister, waving an amputation knife at Ananias who had taken cover behind the Junior Probationer. "Now, Sister—you should ask yourself whether your attitude is in keeping with the traditions of your profession," said Ananias loftily. "I made a mistake and I admitted it."—"Exactly! And into my ward!"

"Phew!" said Ananias five minutes later in the residents' common-room. "There's one colour-bar I'd support—that red-heads be barred from nursing. I'm known to be good at rashes, too. I made a particularly impressive diagnosis of a rash I encountered during one of my numerous Final years, when visiting my G.P. uncle.

"He'd just gone out when there was a noise from the waiting-room as though the sheriff's posse was galloping around inside it. I put on a white coat and uncle's wagon-shafted spectacles, and discovered an aged crone and a brat with a nasty face all under its rash, wrestling for three falls or K.O. Given a referee who was broadminded about gouging, my money would have gone on the Kid. However, my entry caused him to drop his guard and his opponent promptly wrapped herself round him as though trying to deflate an air-mattress in a high wind.

"'I wish you'd just 'ave a look at 'im, Doctor,' she gasped. 'Fair red-'ot, 'e is—even 'is little . . .' Here she used terminology *Gray* had never heard of. On closer inspection the incandescent addition to her Tables of Kindred and Affinity suggested an interpretation by Mr. Graham Sutherland of a Red Indian papoose that had been left out too long in the sun. Visibility was poor, as uncle's spectacles gave me diplopia and the child—even seen one at a time—a sense of nausea. 'Is Mum should 'ave come,' explained Gran, 'but she 'ad to go round to our Sid's for a 'andful of feely-barleycorn tablets 'cause 'e were right out so I'd best 'ave a few while I'm 'ere.'

"The thought of missing its feely-barleycorn issue caused the brat to swell up and go black in the face like the victim in a who-dunnit. It reached flashpoint and let go a yell that rattled my teeth. As the shock-waves thudded against my skull, I remembered the theory that if one whispered to a yelling child it would stop in order to hear what one was saying. Bending down to whisper, I was knocked nearly senseless by a blow on the ear from a toy train. The bellowings of Gran as I stumbled over her corns merged into the thunder of my arrival amongst the fire-irons on the tiled hearth. My resurrection was too slow to stop the offspring filling 10-c.cm. syringes with gentian violet. The first barrel Gran and I shared, but my uncle rushing in got the second one all to himself.

"After that he wasn't even impressed by my diagnosis of the child's rash—red ink on the spectacle-lenses."

* * *

Our elderly, revered, and highly qualified gynæcological surgeon lately carried out a cæsarean section and hysterectomy at full term. The operation was successful but only after grave difficulties had been overcome.

The baby cried lustily and was hurried away in warm blankets, but the mother stopped breathing as the uterus was being removed. The anæsthetist, who unfortunately had not set up a drip, could not now feel the pulse. The surgeon, pausing in his ligating, did feel a rapidly beating heart and the operation was continued with mounting anxiety as the patient's condition appeared to deteriorate, and with the anæsthetist endeavouring to set up a drip in a succession of thready veins. At the end of the operation, after the anæsthetist had exhausted the possibilities of using any veins in the antecubital fossæ, wrists, and ankles, the surgeon cut down drastically in the mid-upper-arm area without finding a vein. He finally ran saline with hyaluronidase subcutaneously under the left breast. Eventually the patient recovered from shock and a vein was found to enable a transfusion to be successfully performed. A short but stormy convalescence was followed by complete recovery.

A few weeks later husband, wife, and baby arrived at the surgeon's consulting-rooms where the proud and happy parents expressed their gratitude. In fact, they were so impressed with his great surgical skill that they had decided to come and ask him, as he was such an able and careful man, and knowing that he would not be afraid to refuse if he did not feel competent, whether he would consider piercing the mother's ears for ear-rings, instead of the local jeweller.

The surgeon did, and very neatly too.

* * *

Once, when calling on a friend of mine in his ward office—he was a house-physician at the time—I was distressed to find a bunch of W.R. reports all bearing his name. When he came in he must have observed the sad look in my eye, for he turned at once to these reports and unfolded this story.

He was working for a physician renowned for his erudition but also known for his vanity. A patient came into the ward who exhibited a most florid and interesting rash. Now the sixth-year students cramming for their finals used to come every week to the physician's round, to gather what pearls he came to cast before them, and that week he stood at the foot of this patient's bed and explained at length how this rash was becoming rarer and rarer and how fortunate the students were to see this case before the condition became entirely a thing of the past. After droning on like this for an hour and a half he turned to my friend who was at his elbow and said "Doctor, you have of course had a W.R. taken." "Yes," my friend replied, in a very audible whisper, "it was negative." Well, that upset the physician's vanity not a little, and amid the titters of the ungrateful sixth year the round broke up.

The following week the sixth year did not pause at the bed of this patient, but after the round the physician said to my friend, "Have you had that W.R. repeated?" My friend said that he had and that it was again negative. The physician then rang up the pathologist and invited him to come to the ward to see an interesting case in consultation. The pathologist came and examined the case and said that indeed it was interesting and nowadays quite rare and that he supposed it would not be long before we never saw one of those again. "You agree then," said the physician with some vigour, "that it is a case of a secondary syphilitic rash?" "Indeed, and a very fine example." "Then I will have you know," went on the physician, "that your laboratory has on two separate occasions sent back a negative W.R. report on his serum."

Now it was the pathologist's turn to be upset, but he placated the physician with a promise that if another specimen was submitted from this case he would give it his own personal attention. When the pathologist had gone the physician rolled up his sleeve and had my friend draw from his arm five c.cm. of blood which was then sent to the lab. The report next day stated W.R.+++. The physician thereupon forebade my friend ever to send another specimen to the hospital path. lab. to have a W.R. done. Henceforth they were all to be sent to the public-health laboratories along the road. And because of the honour of the hospital, and how bad it would look to see the traffic in laboratory tests leaving the hospital, the patient's name was not to be attached to the tubes.

And so it came about that every week a bunch of reports was returned to the ward bearing my friend's name, and purporting to witness to his response to treatment for that most subtle of infections.

* * *

Today has been one of almost ceaseless rain, good for writing peripatetic paragraphs. The only thing that has mitigated the holiday weather is that my small boy spotted and correctly challenged Miss Reveille in Clacton this morning, thereby winning £5 for himself. Why have the scientific journals so far left this technique untouched? Why should not the Editor tour the seaside resorts heavily disguised? And then next year I might be the first to correctly challenge him ("You are Mr. Medicine of 1957, I hereby claim the *Lancet* Prize"), and receive a silver stethoscope and the right to have my next article published without question, however dreadful.

* * *

Laboratory report.—"Culture: No T.V."

Subconscious lexicography in the lab, by a modern Dr. Johnson perhaps?

Students Guide

1956 1957

Medical Schools

At OXFORD UNIVERSITY the preclinical entry is now 76 per year (65 men and 11 women). The small increase in numbers has been made possible by the completion of the new physiology laboratory. An extension of the human-anatomy laboratory is now being built and plans have been drawn up for the extension of the departments of pathology and pharmacology. The clinical school admits 32 students a year, most of whom come from the preclinical departments of the university, but some are admitted from other universities. In the past these students have read for the degree of their parent university, but recently a university statute has made it possible for them to apply for permission to take the Oxford B.M. degree if they have spent three years in an approved university, passed the equivalent of the Oxford anatomy and physiology examination, and taken an honours degree in the arts or sciences. Previously students wishing to take the Oxford B.M. degree had first to obtain an Oxford B.A. degree.

Prof. A. D. Gardner, who has held the office of regius professor of medicine since 1948, retired at the end of the current academic year, when the new buildings in the Radcliffe Infirmary for his successor, Prof. G. W. Pickering, are due to be completed. New laboratories have been built for Professor Pickering in the infirmary, and the board of governors has agreed to place 35 beds at his disposal. A new department is also being built for the new Nuffield professor of surgery, Prof. P. R. Allison, who is due to take up office during 1957. This will consist of twin theatres and laboratories above two existing wards in the Radcliffe Infirmary which are being converted for his use. The new department for the Nuffield professor of clinical medicine will be completed at the end of 1956 and this will enable the professor's needs to be fully met within the main teaching hospital. After the completion of these buildings the departments of anæsthetics, biochemistry, and pathology are to be extended and plans are now being drawn up for the building of a new outpatient department and the enlargement of the X-ray department. Even with the development of the new academic departments of teaching and research, and the provision of an increased number of teaching beds in the Radcliffe Infirmary, the university does not intend to increase the size of the clinical school. The aim will still be to provide the maximum amount of individual instruction, and to give the student direct access to a large number of patients during his training. The system of attachment to an individual tutor which has long been an integral part of the preclinical course at Oxford is continued throughout the students' clinical training. This traditional tutorial system is considered to be one of the most valuable parts of the curriculum.

At the UNIVERSITY OF CAMBRIDGE the number of candidates wishing to study medicine still greatly exceeds the number of places available (about 220 per annum), and all college entries are subject to a university quota. Most colleges will not admit candidates for the degrees of bachelor of medicine and surgery unless they have passed or secured exemption from three parts of the 1st M.B. before coming into residence. This policy allows the student every opportunity to obtain a good class in part I of the Natural Sciences Tripos, whilst those who have the ability and energy are able to take part II of the Tripos during the third year of residence. The first part of the final M.B. examination—the basic subjects of pathology (including hygiene, bacteriology, epidemiology, and preventive medicine) and pharmacology and therapeutics—may be taken two years and three months or more after beginning clinical studies. The clinical subjects—medicine, surgery, and midwifery and gynæcology—comprise the second part of the examination and may be taken after two years and nine months or more of clinical study. Before a candidate can be admitted to the final M.B. he must obtain honours in a tripos (or if over the standing for honours must reach the honours standard in part I of the Natural Sciences Tripos). In addition to obtaining honours in the Tripos he must also reach a qualifying standard in anatomy and physiology (or pass a qualifying examination in anatomy and physiology) and must also pass an examination in pharmacology. A student who has: (*a*) kept nine terms; (*b*) completed five years of medical study; and (*c*) passed the final M.B. examination is qualified to proceed to the degrees of bachelor of medicine and surgery (M.B., B.CHIR.). The medical student in Cambridge, after qualifying in anatomy and physiology, has excellent opportunities for preparing for clinical studies during the long vacation when he may attend courses in elementary clinical methods and in introductory psychology. The course in clinical methods includes lectures and demonstrations on the simple techniques used in the examination of patients attending the general and special hospital departments, as well as lectures on the Career of Medicine, Epidemiology, and the Practice of Medicine in the Home. Medical students in residence during the long vacation may also attend a series of lectures on each of the subjects medical statistics, medical genetics, medical history, and the social aspects of disease. The faculty of modern languages provides an elementary course of lectures in German, Russian, and Italian designed to give a working knowledge of the language to science and medical students. A special series of lectures in English literature and poetry for students in scientific faculties is arranged by the faculty of English.

LONDON SCHOOLS

LONDON UNIVERSITY bears a different relation to its medical faculty from other universities: whereas they have one school of medicine each, London has twelve autonomous schools, each of which is closely linked with one of the teaching hospitals, as well as University, King's, and Queen Mary Colleges, all of which take medical students for some part of the preclinical course. All the medical schools are now open to men and women students.

At UNIVERSITY COLLEGE, which has the largest preclinical teaching and research staff in London, medical students taking the preclinical course come into close contact with students in other faculties, particularly with science students and research-workers who are specialising in anatomy, physiology, biochemistry, and pharmacology. Every encouragement is given to students who pass the 2nd M.B. examination with credit to spend an extra year's study for the B.SC. (special) degree in anatomy or physiology. Scholarships and exhibitions supplemented by the Ministry of Education are available for at least 10 students each year to take the B.SC. course. This provides an admirable introduction to research methods and outlook, useful to the medical graduate in the clinical as well as the preclinical fields. There are 40 places available in the first-year (intermediate science) course each session, and a total of 60 places in the 2nd M.B. course, of which 10 places are reserved for women students and 3 places for overseas students from the Colonies or Dominions. Students accepted for the full medical course receive their clinical training at University College Hospital Medical School. The dean of the faculty of medical sciences is Prof. F. R. Winton.

KING'S COLLEGE provides courses for the 1st M.B. and 2nd M.B. examinations of the University of London. Applications for admission to the faculty of medical science in October, 1957, should be made at once, and certainly not later than the end of October, 1956. Applicants for admission in 1958 are advised to apply between May and September, 1957. The students of King's College undertake their clinical studies at either King's College Hospital Medical School, St. George's Hospital Medical School, or Westminster Medical School, and no student is

allowed to begin preclinical studies at the college who has not also been provisionally accepted by one of these hospitals for clinical training; students should therefore apply at the same time to one or more of these hospitals. One feature associated with the preclinical course at King's College is the participation in the fuller activity of university life offered, because there are faculties of arts, laws, natural science, engineering, and theology also in the college.

The arrangements made by the joint committee of QUEEN MARY COLLEGE and the London Hospital Medical College ensure that the teaching in physics, chemistry, and biology fits in closely with preclinical teaching. Most of the places are taken by London Hospital men and women, but applications from students with other hospitals in view are considered. During the 1955–56 session 60 first-medical students passed through the departments.

At UNIVERSITY COLLEGE HOSPITAL Medical School there were no major excitements in the academic year 1955–56. The annexe to the hostel has been opened and is full; the "new" sports ground is maturing well. There are hopes that the long-awaited rebuilding of the existing students' hostel may become a reality before very long. The start on the new dental hospital and school is still to be made; and in the meantime there is no shortage of applicants for training in dental surgery and all available places for 1957 have been allocated. There is a growing feeling in the school that final examinations in medicine occupy too prominent a place in the scheme of training. If University policy would allow it, more attention might profitably be paid to the performance of students throughout their course in assessing their fitness to go on the *Medical Register*, so that correspondingly less stress need be laid on marks in the finals. Failures in the finals are still commoner than they ought to be, and cause much distress to grant-aided students, whose education authorities do not always realise that an able hardworking student may easily fail in at least one part and does not necessarily deserve on that account to have his maintenance grant stopped.

The Medical College of St. BARTHOLOMEW'S HOSPITAL is housed in new buildings ideally situated in Charterhouse Square where, in addition to the college hall of residence, there is a gymnasium and tennis and squash courts. With the building of new wards in the hospital, an increase is anticipated in the number of preclinical students. About 30 to 35 are accepted every year from Oxford and Cambridge as clinical students. There are a number of entrance scholarships in arts and in science, and internal scholarships are offered to a limited number of suitable candidates taking an honours B.SC. course in the year after passing the examination in anatomy and physiology. During their final year students are encouraged to spend a few days with a general practitioner, and a lecturer in general practice is on the staff of the college.

CHARING CROSS HOSPITAL Medical School can again report a very successful year's work. Arrangements have been continued for a special class of 1st M.B. students to study at the Northern Polytechnic: this scheme has now been in operation for four years and has proved most successful. All but one of the students passed the 1st M.B. special examination at the end of the year's course. The high standard of work maintained by the students is shown by the fact that at the last M.B., B.S. examination the pass-list in the four groups of subjects varied between 79% and 100%. 72% of the students passed in every subject. The students of the school also claimed half the places in the honours list. The corporate spirit amongst the students is good, and the musical society and the dramatic society have had successful ventures at the Irving Theatre. Extensive reconstruction in the school has led to improvements in the pathological museum which is probably now one of the finest in the country. The library has been reorganised; and during the past few years many new volumes have been added so that it now meets the requirements of students and staff alike. The clinical research subcommittee has made good use of the special premises adjacent to the hospital in which a number of different projects are being investigated and an ambitious scheme for further developments of clinical research is in active preparation.

At ST. GEORGE'S HOSPITAL Medical School extensive alterations to premises have been carried out from which have emerged modern teaching and research laboratories, a students' refectory and club overlooking the park, and an enlarged school housing its department of pathology in a new building of three floors. Work is in progress on further extensions designed to serve the newly formed academic units in medicine and surgery, due to begin in October, 1956. The Grove branch of the hospital at Tooting is now admitting general medical and surgical patients and is already proving invaluable for teaching. The St. George's tradition of personal teaching to small classes at the bedside continues. New playing fields and pavilion are in the making and the various athletic and games clubs flourish.

At GUY'S HOSPITAL Medical School the two and a half years of preclinical studies are designed to prepare the student for the clinical work which will follow, and particularly for the eventual practice of medicine. There is a close link between the medical school departments and the wards. Oxford and Cambridge students are admitted for the three clinical years. The aim at Guy's has always been to encourage responsibility from the moment the student enters the wards. A three-monthly series of dresserships and clerkships are arranged in the general wards and in special departments so that students accept supervised responsibility for patients, and the emphasis is on bedside and outpatient teaching rather than organised lectures. There are, however, lectures and demonstrations organised by the directors of the departments of surgery, medicine, obstetrics, pædiatrics, and anæsthetics in order to cover the whole curriculum. Preregistration appointments are available for those newly qualified, and every encouragement is given to men of promise to obtain the higher degrees and diplomas. It is a condition of entry to the medical school that students should join the Clubs' Union which covers all athletic and intellectual activities and includes membership of the Students' Club.

KING'S COLLEGE HOSPITAL Medical School admits clinical students for the London, Oxford, and Cambridge degrees. The dental school provides courses for the B.D.S. degree and the L.D.S. diploma. 50 medical and 25 dental students are admitted each year. Students for the London degrees do their preclinical training at King's College, London, where they have the advantage of associating with students of all faculties. King's College Hospital, including the Belgrave Hospital for Children, has 550 beds. It is situated in the heart of a large residential area and it has one of the busiest outpatient departments in London with an ample supply of clinical material. The school now has the use and clinical control of 200 medical, surgical, and obstetric beds for undergraduate teaching at nearby Dulwich Hospital where the instruction is undertaken by consultants from King's College Hospital and by some of the consultants of Dulwich Hospital who have been appointed associate teachers in the medical school. Building has begun on the first stage of the new extension to the medical school, which should be completed by the beginning of September, 1957. It will contain on the top floor the new medical professorial unit; on the middle floor a larger practical pathology laboratory, thus releasing the present laboratory for research in Bacteriology; and, on the ground floor, additional rooms for students, including offices for the Clubs & Societies Union. A readership in morbid anatomy has been established in the school and the first reader was appointed on April 1 this year. The title of reader in dental prosthetics in the University of London has been conferred upon the senior lecturer in that subject. Also in the dental school, two new lectureships have been established and filled—one in oral pathology and the other in conservative dentistry. Scholarships and prizes of a total value of over £2000 are available for award annually. Prizes are awarded on the results of the annual class examinations. An anonymous gift has now established a new prize in anæsthetics.

During the past year the number of applications at THE LONDON HOSPITAL Medical College has remained high. Application can be made at any time after reaching the age of sixteen, or passing the General Certificate of Education at ordinary level, whichever is the earlier. Applicants are interviewed as soon as possible after they apply, and they are told of the result of the interview within a few days. This policy is still proving of value, since applicants are not left in uncertainty about their chances of obtaining a place. Applicants who are unable to obtain 1st M.B. exemption at school spend one year at Queen Mary College, but the number who need to do this steadily decreases. For entry to Queen Mary College for 1st M.B. work, students must satisfy University entrance requirements, but application to go there should be made through The London Hospital Medical College. In cases where the applicant from school is able to proceed to either Oxford or Cambridge, the place offered for the whole course becomes automatically transferred for clinical work at a later date. The tutorial system both in the preclinical and clinical periods has been extended during the past year and continues to provide a useful method of linking the various parts of the curriculum. Both the departments of physiology and anatomy now regularly run B.SC. (special) courses in physiology and anatomy, and scholarships are given as a result of the 2nd M.B. examination to enable suitable candidates to take part in these courses. There is no doubt that these senior studies leading to the B.SC. degree are of great value to students in their future careers. Research facilities continue to expand both in the preclinical and clinical field. New laboratories for clinical research under the direction of the medical and surgical units have been opened and are proving to be of great value. They have a close association with the newly established professorial departments of biochemistry and experimental biochemistry, ensuring that the highest standard of chemical advice will be available to workers in the clinical field. Junior research fellowships have been established by the college, the tenure of which is normally one year, so that graduates who have done their house-appointments may gain experience in and have opportunities for original research under supervision. There has been no difficulty in all the newly qualified graduates getting a preregistration appointment, and the majority are able to hold at least their first appointment at the teaching hospital. The athletic side of the college will be greatly helped in the future by the opening of a new pavilion at the sports ground at Hale End this year.

At ST. MARY'S HOSPITAL Medical School research laboratories have been equipped for the department of chemical pathology, and they were put into use at the beginning of the session when Prof. A. Neuberger took up his duties as head of the department. Further accommodation adjoining the hospital has been leased from British Railways, and is being converted into laboratories for the departments of biochemistry, chemical pathology, and pathology. The centenary appeal fund which was launched over eighteen months ago has now reached a total of £185,000 as a result of the fine efforts made by the chairman and members of the centenary fund executive committee. The medical school council gave a dinner at Apothecaries' Hall on Feb. 29, 1956, to mark the success of the appeal when presentations were made to the chairman of the committee, Mr. Edgar Lawley, and to Col. Walter Parkes, the director of the appeal. Prof. G. W. Pickering, who has held the chair of medicine at St. Mary's for seventeen years, is leaving on Sept. 30 to take up his appointment as regius professor of medicine at Oxford University. He will be greatly missed by all his colleagues, who wish him every success in his new appointment.

At the MIDDLESEX HOSPITAL Medical School the whole curriculum is covered, including that for the 1st M.B. examination, and students are admitted either to classes for the 1st M.B. or direct for 2nd M.B. work. Students who have carried out their preclinical course at Oxford or Cambridge are eligible for admission direct to clinical work. The number of students seeking admission at all stages remains very high and far in excess of the number of vacancies available, so intending applicants are advised to apply eighteen months to two years in advance of the date at which entry is required. The school has an arrangement with the Central Middlesex Hospital by which clinical students may attend there as clerks or dressers for three months; the clinical facilities offered there have recently been added to by the provision of some residential accommodation for students and the arrangements made by the authorities of the Central Middlesex are a great benefit and are much appreciated both by the students and the school. In addition the authorities of Harefield Hospital arrange courses of instruction in pulmonary tuberculosis, and the medical superintendent of St. Ann's Hospital gives instruction in infectious diseases. These facilities are also very much appreciated. A limited number of students can be accommodated to follow a course for the B.SC. (special) degrees in anatomy and physiology between the completion of their studies of anatomy and physiology and the beginning of the clinical course. There is an excellent athletic ground of over twenty acres at Chislehurst which affords very good facilities for rugby and association football, hockey, cricket, and tennis. There are numerous other clubs, and the Medical Society, which is the oldest of its kind in London, being founded in November, 1774, holds weekly meetings throughout the winter session.

At the ROYAL FREE HOSPITAL School of Medicine during the last session there has been no new building in the preclinical departments at Hunter Street, but an extension was built on to the main ward block at the Royal Free Hospital, Gray's Inn Road, providing 5 more beds and a tutorial room on each of three floors. Good progress has been made at the athletic ground at Enfield, where the main house on the estate is in process of conversion into a fully equipped clubhouse. In the meantime a pavilion has been erected on the field itself to commemorate the work of Dr. Jenner Hoskin, late senior physician at the Hospital, and a very keen supporter of all student activities. The popularity of the Enfield estate has been growing steadily in the three years since a generous grant from the University Grants Committee made its purchase possible, and students now look upon it as very much a part of the school and a centre not only for games but for social events of all kinds. On the academic side advantage has been taken of a recent permissive ruling of the University to enable 2nd M.B. students to take anatomy and physiology only in the March second medical examination, deferring their entry to pharmacology until the first year of their clinical course. While it is still too early to judge the success of this experiment, the lightening of the curriculum in the preclinical period has enabled students to devote more time to anatomy and physiology, and to carry their work in pharmacology into the early stages of the clinical course. During the year 46 students have qualified, and in October, 1955, 1 gained the University gold medal. There have been successes, too, in athletics. 2 students gained colours in University teams and 4 rowed in the University boat. Miss R. Ashby, a first-year student, gained first place for England in the women's international cross-country match against Scotland, and later in the season took 5·3 sec. off the previous record for the women's half-mile at the universities' athletic championships. Friends of the school have been generous as ever in personal gifts and bequests. A former student, Dr. Sheila Hugh Musgrove, left £1000, which has endowed the Vernon Chinnery-Haldane undergraduate scholarship. Sir George Constantine has endowed an annual prize of the value of £16 in gynæcology in memory of his sister, Dr. Mary Constantine, and Mrs. Cunning has again offered prizes to the value of £100 for essays on a dietetic subject.

In view of the remoteness of the chances of building a completely new medical school in the near future, some vigorous changes have been made at ST. THOMAS'S HOSPITAL Medical School, and others are planned, to use to best advantage the cubic capacity of the present buildings and bring their altered accommodation up to modern standards of equipment and essential services. This has already been achieved in the department of biochemistry, which also caters for the teaching of inorganic and organic chemistry. In the shell of the old building a thoroughly modern and up-to-date range of rooms for undergraduate teaching has been achieved.

The department of anatomy is scheduled for the next attack, which, it is hoped, will be made next year. Parallel with these changes in the school the rebuilding of the hospital, as opposed to reconstruction of war damage, has at last begun in earnest. The medical professorial unit hopes to move into its spacious new quarters this autumn. On the academic side the problem of direct entry into the preclinical period remains; it is hoped that before long the advanced level of biology in the General Certificate of Education will be accepted for exemption from the 1st M.B. in London University, as it is in the corresponding examinations for Oxford and Cambridge. The strain of the five preclinical terms has been relieved a trifle by moving pharmacology for a trial period into that devoted to elementary clinical teaching. In the more rarified atmosphere of higher degrees and diplomas there have been some 43 successful candidates. The final F.R.C.S. course retains its popularity. These batches of young postgraduates from the Dominions with their invigorating enthusiasm bring much benefit to the school. One cannot help feeling that our own graduates must cast an eye of envy on their comparatively sure future compared to the uncertainty in this country. The versatility of students during their undergraduate days brings pleasant and interesting sequels in later life. This year the school can claim a peerage for a distinguished surgeon and Dominion premier, a leader of an Antarctic expedition, and a captain of the Royal and Ancient.

The function of the WEST LONDON HOSPITAL Medical School in the University of London is still undecided. The hospital, which is controlled by the board of governors of Hammersmith, West London, and St. Mark's Hospital, was destined at the "appointed day" to share the responsibility of postgraduate education with Hammersmith Hospital. The school, however, has remained independent, and its postgraduate activities have largely been confined to students referred to it by the Postgraduate Federation and also by certain Government departments. There has recently been an increasing amount of undergraduate teaching and at present there are quite a number of undergraduates doing the whole of their clinical course at the school; but no students can be accepted for preclinical work. The school has taken these students largely as a result of pressure from the Colonial Office and other organisations responsible for training students in this country. It is hoped that this work may be approved by the University. Negotiations between the various interested parties will continue during the next academic year, when it is hoped that some final solution will be reached.

At WESTMINSTER MEDICAL SCHOOL the number of clinical students is 198, of whom 14 are women; 75 students are doing their preclinical studies at King's College, with a view to entering Westminster for the clinical period. Some 500 applications were received last year for an annual entry of 65. The Westminster teaching group comprises: Westminster Hospital of 430 beds in which clinical practice in general medicine, surgery, and obstetrics is undertaken (the orthopædic, ophthalmic, and ear, nose, and throat departments are also in the main hospital); the Gordon Hospital of 100 surgical beds; the Westminster Children's Hospital of 120 beds which provide full facilities for instruction in pædiatrics; and All Saints' Hospital of 50 beds for the practice of gynæcology and urology. A close affiliation with St. Stephen's Hospital provides very valuable additional clinical practice in medicine. Practical midwifery is also carried out at St. Stephen's Hospital, the Nelson Hospital, and St. Teresa's Hospital. Instruction in fevers is given at the Western Hospital, Fulham. A scheme has been instituted on a voluntary basis by which students may reside for a fortnight with general practitioners in order to see the work of their practice. Special instruction in tuberculosis is provided by a fortnight's residence at the King Edward VII Sanatorium, Midhurst. Instruction in mental diseases is given at the Netherne Hospital, S.W.17. 40 vacancies a year in the Westminster Hospital teaching group have been recommended for pre-registration posts, and competition for these is keen. There is a sports ground of 28 acres and a pavilion at Cobham; the ground is near the station and is conveniently reached from the hospital in forty-five minutes.

At the SCHOOL OF DENTAL SURGERY of the ROYAL DENTAL HOSPITAL of London, students who have completed the first medical or comparable examination devote one year to the study of general and special anatomy and physiology. In the next three years of the course, after preliminary instruction, both theoretical and practical, in dental mechanics, dental metallurgy, and the properties of dental materials, and instruction in the techniques required for dental conservation work, they attend lectures and clinics on general medicine and surgery at Charing Cross Hospital Medical School and lectures and practice in dental surgery at the dental school. Degree students attend for a further period of four or six months before completing their final examination.

OTHER ENGLISH SCHOOLS

In the UNIVERSITY OF DURHAM the number of new students is about normal; 90 new students were admitted in October, 1955, 14 to first year and 76 to second year. Plans are now being prepared for much-needed extensions to the teaching block in the Royal Victoria Infirmary. The scheme will include the addition of a projection-room to the existing lecture-theatre, patients' rooms, seminar rooms, library, canteen, and cloak-rooms. It is hoped that these extensions will be completed during the next year. The extensions to the department of pathology, which is housed in the teaching hospital, are well under way and it is hoped that these will be completed before the end of the present year. Plans for the extension of the north block of the medical school, providing more adequate accommodation for the department of anatomy, particularly for dental anatomy and histology, are now in the final stages of preparation and it is expected that a start on these extensions will be made in 1957 or 1958. A department of neurology has now been established in the teaching hospital, one ward of 25 beds being suitably adapted for the purpose. The department, in which medicine and surgery will be combined, will be in the charge of Mr. F. Rowbotham and Dr. H. G. Miller. In addition to a first assistant in neurology there will be a senior house officer and a house-physician attached to the unit. Prof. F. J. Nattrass retires from the chair of medicine at the end of the year. He is succeeded by Dr. G. A. Smart, reader in the department of medicine. Prof. Norman Hodgson, another Durham graduate, who was appointed to a personal professorship in 1954, also retires this year. At the beginning of the year the school was pleased to welcome Dr. Martin Roth to the chair in psychological medicine. Each year the Medical Society journeys abroad, usually to a capital city and there sees at first hand something of the teaching and life of foreign medical students. In April of this year a party of 20 students visited Rome and spent ten days visiting the Policlinico and sightseeing. In July a party of medical students from Oslo visited the Durham school; and a group of Durham students will visit Oslo in August as part of this very successful student-exchange scheme which is organised by the Medical Students' Council.

In the UNIVERSITY OF BIRMINGHAM Medical School* it has not been possible to begin the building of the library which so urgently needs adequate accommodation; but progress has been made and it is confidently hoped that building will begin before the end of the forthcoming session. The second part of the new clinical research block is being built and the ground floor is already occupied by the department of experimental psychiatry. The three floors above this are to be devoted to cancer research. The new early-treatment hospital at Uffculme, the former home of Mr. Richard Cadbury, is now receiving patients under the supervision of the department of psychiatry. Parts of the maternity hospital in Loveday Street have been enlarged and modernised and a new research department has been established at the General Hospital. A department of microbiology, with Prof. D. G. Catcheside, F.R.S., in the chair, has been set up in the faculty of science and it will be available for workers in this field from the faculty of medicine. Other changes which will presently affect the faculty of medicine indirectly are the removal of the various faculties from the original building in the centre of the town to the Edgbaston site; this move will help the building of the main library, and the extension of the Students' Union

and the refectories and common-rooms for both staff and students. It is the aim of the University that more and more students shall enjoy the experience of living in a University community, as opposed to visiting it, and to promote the easy mixing of students of all faculties. At present the great need is for more halls of residence. Unhappily only 11% of students can be accommodated in this way; 59% live in lodgings and 30% at home. The university is fortunate in having sufficient land within the precincts of the main buildings on which adequate residential accommodation will be built as soon as possible.

At the UNIVERSITY OF LIVERPOOL,* 72 men and 26 women undergraduates were admitted in October, 1955, and of these, 51 entered the first year and 47 the second year. There is no falling off in the number of applications for admission to the medical school. The first part of the new medical school building is now occupied by the departments of pathology, bacteriology, and pharmacology. For some years, students have had two weeks' residence in hospital during their three months of clinical instruction in pædiatrics. Now a scheme has been introduced whereby they reside in hospital for a similar period of two weeks during their final year for "emergency" work in medicine and surgery. Two new whole-time University posts have been established: a senior lectureship in psychological medicine with consultant sessions under the Board of Governors of the United Liverpool Hospitals and the Liverpool Regional Hospital Board, and a lectureship in public health. Both these appointments have been made necessary by the increased number of postgraduate students attending these courses. Visiting lecturers to the medical school during the session have included Sir Geoffrey Keynes, Sir James Paterson Ross, Prof. R. I. Harris, of Toronto, Dr. A. J. Cain, Mr. W. H. Kirkaldy-Willis, of Nairobi, Dr. J. J. R. Duthie, Dr. J. S. Weiner, Prof. George H. Acheson, of Cincinnati, Dr. W. Mayer-Gross, Prof. Robert W. Virtue, of Denver, Prof. F. B. Bang, of Baltimore, and Prof. J. H. P. Jonxis, of Groningen. Several professors and lecturers from Liverpool have undertaken extensive lecture tours: Prof. B. L. McFarland in South Africa, Prof. C. A. Wells and Prof. B. G. Maegraith in the Middle East and Far East, Prof. T. N. A. Jeffcoate in the U.S.A., Australia, and New Zealand, Prof. R. M. Gordon in Malaya, Dr. T. C. Gray in Brazil, Prof. H. L. Sheehan in the U.S.A., and Prof. T. H. Davey in East and West Africa. The British Orthopædic Association, under the presidency of Professor McFarland, the British Association of Urological Surgeons, the Northern Pædiatric Clubs, the North-West Science Masters Association, and the Society of Experimental Biology held their annual meetings in Liverpool during the session. Sir Henry Cohen, who has held the chair of medicine for the past 22 years, has been created a baron for his services to medicine. His new title is Lord Cohen of Birkenhead.

At MANCHESTER UNIVERSITY* the number of applicants is still very large, and 87 new students were admitted in October, 1955, including 24 women. A revised curriculum which aims to reduce the content of the course, to avoid students being examined in one subject while devoting the greater part of their time to another, to provide at least one term unencumbered by compulsory classes or clinics before the final examination, and to free at least one long vacation during the clinical years, was introduced in October, 1955: it is anticipated that further modifications and improvements will be made in the light of experience. More "combined" classes in which the staffs of various clinical and preclinical departments take part are being provided in the final years, and they have been followed by some fruitful discussions between teachers and students. While studying anatomy and physiology, groups of students are being sent regularly and more frequently to hospitals to gain insight into the applications of these basic subjects, and the period spent in clinical apprenticeship (three months) in the fifth year is now being supplemented by attendance for a fortnight at the model health centre set up under the auspices of the University and Manchester City Council, with generous support from the Nuffield Trust and Rockefeller Foundation. This experience in group practice as run from a special centre may be further supplemented by attaching students for one or two weeks to selected general practitioners, and this possibility is being discussed with local representatives of the College of General Practitioners.

At the UNIVERSITY OF LEEDS* the past year has been one of consolidation rather than expansion. The revised curriculum is now in full operation and, though naturally there have been difficulties in adjusting the new and old systems of clinical appointments, it is on the whole working well. The men's and women's new common-rooms which were begun last year are now virtually ready for occupation and will certainly be in use before the beginning of the next session. It is intended to complete the work of adapting the present common-rooms for library purposes in the long vacation. This will be a great advantage since accommodation both for readers and books has been very short. The teaching hospital is about to start a new building to be called the Martin Wing after the chairman of the board of governors, Sir George Martin. Discussions are proceeding about the detailed allocation of space in the building and it is hoped that it will be possible to allot some space to develop laboratory and other facilities for the full-time units. The new animal accommodation is also in use and is proving very satisfactory. Applications continue to exceed greatly the number of places available and there has been a relative increase in the number of applications from women.

At the UNIVERSITY OF SHEFFIELD* the title and status of professor of psychiatry have been conferred upon Dr. E. Stengel, consultant psychiatrist to the United Sheffield Hospitals. It is expected that the Medical Research Council will establish in the near future a unit for the study of the relation of air pollution to chronic bronchitis. This will be under the direction of Dr. John Pemberton, whose present senior lectureship in social and industrial medicine will become part-time. An offer from Boots Pure Drug Co. to finance a medical research fellowship has been gratefully accepted. A fellowship supported by Ciba Laboratories is being held in the department of pharmacology and therapeutics. The Carnegie Trust has promised financial support for an investigation into the problems of handicapped children in the home, to be undertaken by the department of child health. An undergraduate prize in prosthetics, orthodontics, and oral pathology has been established by the Sheffield and District section of the British Dental Association. As a result of the J. A. Knowles bequest, a scholarship will shortly become available to help male students in the faculty of medicine to combine the degrees of M.B., CH.B. with the degree of B.SC. with honours in anatomy or physiology. It will be tenable during the year which may be interpolated within the medical course for this purpose. The reconstruction and enlargement of the anatomy department, and rearrangement which it is hoped to make in relation to physiology, should, together with a system of partial first-year exemptions, allow an increased intake of dental students next session. The new teaching block at the Royal Infirmary, to which reference was also made last year, is expected to be ready for occupation in the near future. The death occurred during the session of Dr. Rupert Hallam, who, during the period 1912–44, was first clinical teacher in skin diseases and later lecturer in dermatology. Dr. Mark Gregory Baker, who qualified from the school in 1938, lost his own life in attempting to save those of others; he received the posthumous award of the Albert Medal.

At the UNIVERSITY OF BRISTOL the number of applications for medicine and veterinary science has remained high. Those for dentistry have continued to increase, and an improvement in quality has been noticeable of late. The scheme for the attachment of final-year students to general practitioners for one or two periods

* The entrance requirements for the Universities of Manchester, Liverpool, Leeds, Sheffield, and Birmingham are laid down in the pamphlet, *University Entrance Requirements 1951–1955*, copies of which may be obtained from the Secretary to the Joint Matriculation Board, 315, Oxford Road, Manchester, 13. Additional faculty requirements may, however, be imposed; details can be obtained from the dean of the faculty of medicine in each university.

of a week each has been continued on a voluntary basis and is very satisfactory. The arrangements for pre-registration appointments have worked smoothly.

WALES

This year the WELSH NATIONAL SCHOOL OF MEDICINE celebrates the twenty-fifth anniversary of its Charter, and to mark the occasion on Oct. 12 and 13 all old students, both clinical and preclinical, will be invited to attend the sessional opening address, a past students' dinner, and a reception at University College. The medical school will be open during these days, and it is hoped that many will return to Cardiff to see the present-day developments and to renew old friendships. The number of undergraduates accepted and pursuing their courses at University College was 52, an increasing proportion of the applicants coming from outside Wales. The first group of students to take the Welsh degrees under the new regulations have completed their course. The arrangements for placing newly qualified students in preregistration appointments in the teaching hospitals and the hospitals throughout Wales continue to be satisfactory. The opening of the new maternity hospital of 81 beds now provides accommodation for the professorial unit of obstetrics and gynæcology, together with very serviceable lecture and demonstration rooms, and is a welcome addition to the school's facilities. The school still awaits official approval to go forward in preparing plans for the long-promised teaching centre in Cardiff, but in the meantime improvements have been made in existing departments, and it is hoped to proceed with other much needed developments in the near future. The medical students share the magnificent new playing fields which have this year been opened by University College, Cardiff, a privilege of which they have taken full advantage, for the school teams, particularly on the rugby field, have been more than usually successful. The interest of the regional consultants in the school, which has always been most cordial, has been reflected this year by the gift of two annual prizes open to final-year students, given by the Society of Physicians in Wales and the Thoracic Society.

SCOTLAND

At the UNIVERSITY OF ABERDEEN the course for the degrees of M.B., CH.B. extends over six academic years. Courses in premedical and preclinical subjects are given in departments located in Marischal College and in Old Aberdeen, providing instruction to science as well as to medical students. The laboratory and lecture courses in the three clinical years are given in the University buildings on the Foresterhill site where the main hospitals are, and clinical instruction is given in all the hospitals in Aberdeen. Few changes have taken place during the past year, though a number of important new projects are in course of completion or being planned. The new wing to the Royal Infirmary has been opened and provides accommodation, among other things, for an enlarged blood and fluid transfusion unit which used to be housed in the department of bacteriology. Plans have been prepared and a start will soon be made on building the special research department in clinical midwifery which will be staffed by the Medical Research Council and run under the honorary direction of the professor of midwifery. In course of preparation are plans for a new medical physics building and a new animal house, and it is hoped that a start will be made during the next academic year. The number of students applying for admission tends to fall, but is still above the number of places available. During the year the four Scottish Universities promoted an ordinance to permit certain candidates for admission to the medical faculty under regulations to be made by each university to sit the professional examination in physics, chemistry, and biology without attending university classes in these subjects. It is hoped that this ordinance will be approved and that the new regulation will come into force next year. The policy of attaching students to general practitioners in the region continues to be successful. Fears that the patients might object to such an arrangement have not been justified, and the relations between students and doctors have been friendly and helpful.

At the UNIVERSITY OF EDINBURGH, the past year has been one of continuing activity. The number of applicants for admission in October, 1956, to the M.B., CH.B. course remains high in relation to the number of places available. The number of suitably qualified applicants for admission to the School of Dental Surgery although increasing is still below the capacity of the school. The demand for places in the Royal (Dick) School of Veterinary Studies for the B.V.M. & S. course again exceeds the number available. Students in medicine, dentistry, and veterinary medicine and surgery all attend the same first-year course with professional examinations in physics and zoology in March and in chemistry and botany in July; and these students are governed by the same regulations relating to the first-year classes and professional examinations. The procedure for the selection of medical students provides for the interview of most applicants by a selection committee before admission to the faculty. Those applying for admission as students for the M.B., CH.B. course beginning in October, 1957, should submit their applications to the dean of the faculty by Dec. 31, 1956. A limited number of undergraduate bursaries and scholarships are available to students in the faculty of medicine for advanced courses of study—e.g., an honours course of instruction for the B.SC. degree. Present regulations governing the M.D. degree require the lodgment of two copies of theses and candidates may be required to present themselves for examination, which may be a written, oral, clinical, or practical test in the branch or department of medicine to which the subject of the thesis relates. The degree CH.M. requires the submission of a thesis and normally also examination in a surgical subject or subjects. The University does not provide courses of instruction leading to these higher degrees, but facilities for clinical or other study and for research are available. The University conducts post-graduate courses leading to the diplomas in medical radiodiagnosis and in medical radiotherapy, each extending over two years. There is also a course of instruction in public health of about nine months' duration for the diploma in public health. For the diploma in tropical medicine and hygiene the course of instruction is in two parts, each of about three months' duration. New regulations for the diploma in psychiatry, to take effect from Oct. 1, 1956, have recently been approved There is also a course of instruction leading to the certificate in medical illustration. Graduate scholarships and fellowships are also offered, being open to graduates in the faculty of medicine of any university, to graduates in the faculties of arts or science of any university who hold an honours degree, and to licentiates in medicine. The holders of such awards are required to undertake research work in a department within the faculty of medicine. The Edinburgh Post-Graduate Board for Medicine (see p. 410), which is an advisory council to the University provides courses of instruction leading to the higher qualifications granted by the Royal Colleges of Edinburgh.

At GLASGOW UNIVERSITY the number of applications for admission to the medical and to the veterinary school show little change from last year and are still in excess of the numbers of available places. Applications for entry to the dental school, which had already begun to show a slight but welcome increase last year, show an even greater increase this year. While no new professorial appointments have been made, the end of this session will see quite a number of retirals under the age-limit of those in charge of non-professorial teaching units and their replacement by younger consultants. The new University department of surgery which was opened last year is now in full operation and providing greatly increased facilities for postgraduate study and research. After protracted negotiation, the dental school has succeeded in obtaining an extensive site adjacent to the dental hospital which will provide room for buildings to be used primarily with postgraduate work. In the veterinary school, the animal hospital and associated buildings for clinical instruction are now in almost full

operation. The farm which was bought last year has been greatly developed, and is already providing amply for instruction in animal husbandry. There have been no major changes in curricula, but the junior teaching staff has been augmented by several additions in the lecturer grade to the establishments of individual departments.

At the UNIVERSITY OF ST. ANDREWS instruction in the subjects of the clinical years of study is given at Dundee, while the premedical and preclinical subjects may be studied either at St. Andrews or at Dundee. The course of study lasts six years. The annual intake of students to the faculty of medicine is limited to between 70 and 80 to ensure that the hospital facilities available are sufficient to allow of adequate clinical instruction being given to each undergraduate. The laboratory accommodation in both preclinical and clinical years has been recently extended and provides excellent facilities for students. Both at St. Andrews and Dundee there are residences which accommodate undergraduates from all faculties. Medical students in their early years are encouraged to reside in these to make contact with undergraduates of other faculties.

IRELAND

At the UNIVERSITY OF DUBLIN, the entry of students is being further restricted so that the number in each clinical year in future will be limited to 50. Clinical tutors in medicine and in surgery have been appointed in the hospitals regularly attended by students of the University. The tutors will supervise the work of students in the hospitals, under the direction of the professors of medicine and surgery. A professorial unit in obstetrics and gynæcology has been established in the Rotunda Hospital, under the direction of Prof. J. B. Fleming. Reconstruction of laboratories is still in progress. The anatomy theatre has been completely refitted, and extensive changes are being made in the physiology, biochemistry, and pathology departments. The course in practical pharmacology has been extended, and arrangements have been made for increased instruction in clinical pathology and in pædiatrics.

The SCHOOLS OF SURGERY, DUBLIN, including Carmichael and Ledwich Schools, are attached by charter to the Royal College of Surgeons in Ireland. The college admits to the preregistration classes approximately 100 students each year. The normal method of entrance is by competition in the preliminary examination, but a limited number of places is given to those with exceptional qualifications and to certain students selected by the Colonial Office to which all colonial students should apply, because, owing to limitation of numbers, they cannot be admitted to the entrance examination. Nearly all students take the Irish Conjoint Board's examination but some take in addition the London examination. The Schools were inspected by delegates from London University two years ago and as a result were "recognised" for a further period of five years. Students are medically examined at the start of the preregistration year and again before the start of the clinical years. Two doctors give free medical care to students and there are a men's warden and a lady dean of residence to help students in obtaining suitable accommodation and in other ways. The playing fields of 16 acres and the pavilions are among the best in Dublin. Recently the laboratory space for chemistry and physics has been doubled, two rooms for advanced work have been added to the anatomy department together with a new lecture-room and much additional apparatus obtained for the pathology, physiology, and physics department. In addition a large room has been constructed for the Men's Union.

The ROYAL COLLEGE OF SURGEONS IN IRELAND is in the unique position of being by charter an undergraduate school of medicine undertaking the full training in the basic sciences and in the preclinical and clinical courses. In the college buildings in Stephen's Green in the middle of the city are the laboratories for biology, physics, and chemistry, and for biochemistry, physiology, and pathology, as well as an unusually large anatomy department, five large lecture-theatres for formal lectures, examination, administration, and reception rooms, the college library, a restaurant for the students, and the Union common-rooms for men and women. For midwifery and gynæcology any of the three well-known Dublin maternity hospitals are available to college students and for general hospital work any of the ten Dublin clinical hospitals and the usual specialist hospitals are available. The Students' Union caters for about twelve other societies—scientific, musical, dramatic, fencing, boxing, &c.—and most of these compete with visiting universities, Irish or otherwise. Students are examined radiologically on entrance, tuberculin-tested and, if they wish it, given B.C.G. The radiological examination is repeated before commencing clinical work. The great majority of students take the examinations of the Irish Conjoint Board and a few take the English Conjoint and the London University examinations.

At QUEEN'S UNIVERSITY, BELFAST, the number of entries to the medical school each year is restricted to 108, of which up to 20 places are reserved for the school of dentistry. Priority is given to applicants whose parents are normally resident in Northern Ireland, and a number of places is reserved for selected candidates from Great Britain and overseas. Details of the entrance requirements may be obtained from the secretary, Faculty of Medicine, 25, University Square, Belfast, or from the clerk of admissions, Queen's University, Belfast. The new Institute of Clinical Science, which was opened in May, 1954, provides exceptional facilities for the clinical teaching of undergraduates and of research for postgraduates. The student-health-service clinic continues to provide a comprehensive service for all students at the University. Routine medical examination and Mantoux testing is compulsory for first-year students. All students have an annual chest radiograph, and this facility is also offered to the staff. A lodgings department has been added to the other auxiliaries of the service.

The NATIONAL UNIVERSITY OF IRELAND has colleges in Dublin, Cork, and Galway.

Degrees and Diplomas

EXAMINING BOARDS

English, Scottish, and Irish Conjoint Boards

THE Examining Board in England by the Royal College of Physicians of London and the Royal College of Surgeons of England examines candidates for the qualifying diplomas of L.R.C.P., M.R.C.S. Candidates satisfying the board's regulations in regard to the preliminary examination in general education are eligible for admission to the premedical examination in chemistry, physics, and biology, and are required to complete the professional curriculum subsequently at a recognised medical school. Copies of the regulations, with a calendar showing the dates of examinations, may be obtained, free of charge, from the secretary to the Examining Board in England, the Examination Hall, Queen Square, London, W.C.1.

The Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons of Glasgow have an arrangement by which, after one series of examinations, held in Edinburgh or Glasgow, or both, the student may obtain the diplomas—designated by the letters L.R.C.P.E., L.R.C.S.E., L.R.F.P.S.—of all three bodies. Candidates may work for the examination of the Scottish Conjoint Board at any of the recognised medical schools of Great Britain and Ireland. The course lasts six years and includes, in addition to the preliminary examination in the natural sciences—i.e., chemistry, physics, and biology—three professional examinations: the first in anatomy and embryology, physiology, biochemistry, and biophysics; the second in pathology and bacteriology and pharmacology; and the final in medicine, surgery, midwifery, forensic medicine, and public health. Details may be had from the registrar, 18, Nicolson Street, Edinburgh.

The Conjoint Board of the Royal College of Physicians of Ireland and the Royal College of Surgeons in Ireland examines candidates for the qualifying diplomas of the L.R.C.P.I. and L.M., L.R.C.S.I. and L.M. After passing an approved examination in general education candidates are required to do a one-year course in chemistry, physics, and biology, these subjects being treated with special reference to their applications in medicine. After passing the preregistration examination in these subjects a five-term course of anatomy and physiology follows. There is then a preclinical term with an introductory course at the hospital and this is followed by three years' clinical work. There are three professional examinations. Candidates are accepted from most of the recognised schools at home and abroad, but in practice 99% of the candidates are from the Schools of Surgery which are controlled by the Royal College of Surgeons in Ireland. The Irish Conjoint Board thus differs from the English and Scottish Boards in that it has a large teaching school under the control of one of its constituent colleges.

Apothecaries' Licences

The Society of Apothecaries of London grants the L.M.S.S.A. Lond. to candidates who pass the primary examination (which is held quarterly) and the final examination. Final examinations are held monthly, except in September. The minimum period of study is normally five years. The four parts of the final examination may be taken together or in any order. Regulations and a schedule of the required courses of study may be obtained from the registrar, Apothecaries' Hall, Black Friars Lane, E.C.4.

The Apothecaries' Hall of Ireland is an examining body. Candidates for examination must be registered medical students. The diploma, L.A.H. Dublin, confers on holders the right of registration in the Medical Registers of Ireland and Great Britain. An examination in practical pharmacy is a compulsory part of the qualifying examination. A course of lectures in the subject is given at the hall prior to each session of examinations. The latter are held three times yearly—in March, June, and November. Further information can be had from the registrar, 95, Merrion Square, Dublin.

UNIVERSITY DEGREES

Bachelor of Medicine and Surgery

All the universities in the United Kingdom, except Nottingham, Reading, Southampton, Hull, and Exeter, offer baccalaureate degrees in medicine and surgery, conferred on the results of examination.

HIGHER QUALIFICATIONS

Those who have graduated in medicine and surgery are at liberty to seek higher qualifications if they wish.

Doctor of Medicine and Master of Surgery

Graduates holding bachelor's degrees can take the degree of doctor of medicine or master of surgery. All universities with medical faculties in Great Britain and Ireland confer such degrees. Liverpool offers the orthopædic degree of M.CH. ORTH.

Master of Midwifery

The Society of Apothecaries of London grants the mastery of midwifery (M.M.S.A.) upon examination in obstetrics, pædiatrics, and public health. The examinations are held in May and November, and regulations may be obtained from the registrar, Apothecaries' Hall, Black Friars Lane, E.C.4.

MEMBERSHIP AND FELLOWSHIP

The Royal College of Physicians of London confers the membership (M.R.C.P.), which is obtained by examination. Examinations are held four times in each year, and medical graduates and licentiates of the college over twenty-three years of age may sit for it. Details can be obtained from the Secretary, Royal College of Physicians, Pall Mall East, London, S.W.1. Fellows of the college are elected annually at a general meeting of the college.

The Royal College of Surgeons of England grants a fellowship to those passing the primary and final F.R.C.S. examinations. The primary examination is open to those who hold a qualification registrable in the British Medical Register and to graduates in medicine and surgery of universities and medical colleges recognised by the council. Subjects of the primary examination are anatomy (including normal histology), applied physiology, and the principles of pathology. The final examination can be taken in general surgery, ophthalmology, or otolaryngology. To be admitted to the final examination in general surgery candidates must produce evidence of having been engaged in acquiring professional knowledge for not less than three years after taking a recognised medical qualification, and of having held the requisite resident surgical posts during a part of that time. Candidates for the final examination in ophthalmology or otolaryngology must have been qualified for three years and must have held general and specialist resident posts during an aggregate period of eighteen months. The primary examination is held in February, June, and October; and the final examination is held in May and November. The college also grants a fellowship in dental surgery. The primary examination is open to those with a dental qualification registrable in the British Dentists Register, and to graduates and diplomates in dental surgery of universities and licensing bodies recognised by the council. Subjects of the primary examination are applied anatomy, and applied physiology, and the principles of pathology, with special reference to the teeth and jaws; and of the final examination surgery, oral pathology, and bacteriology and dental surgery. The Faculty of Anæsthetists has been formed within the college, and the faculty grants a fellowship by examination. Subjects for the primary examination are anatomy, physiology, pathology, and pharmacology; and for the final, anæsthesia and analgesia, medicine and surgery, and the application of the basic sciences to anæsthetics. Copies of the regulations and full particulars may be obtained from the Examination Secretary, Examination Hall, Queen Square, London, W.C.1.

Medical graduates who desire to specialise in obstetrics and gynæcology may apply for entry to the Membership examination of the Royal College of Obstetricians and Gynæcologists (M.R.C.O.G.). A minimum of three years' residence in hospital posts recognised for the examination is required before application is made. The Fellowship (F.R.C.O.G.) is granted to members who are judged by the council to have advanced the science and art of obstetrics and gynæcology.

Graduates may become members of the Royal College of Physicians of Edinburgh (M.R.C.P.E.) on passing an examination, particulars of which may be obtained from the secretary, 9, Queen Street, Edinburgh, 2. The fellows are selected from among members by the council of the college, and receive the designation F.R.C.P.E.

Fellowship of the Royal College of Surgeons of Edinburgh (F.R.C.S.E.) is granted to medical graduates who pass the required examinations. The examination is divided into two parts—the first on anatomy, physiology, pathology, and bacteriology, and the second on the principles and practice of surgery and on one of four special subjects to be chosen by the candidate. Particulars of the regulations may be obtained from the clerk of the college, Surgeons' Hall, 18, Nicolson Street, Edinburgh.

The Royal Faculty of Physicians and Surgeons of Glasgow grants, after examination, a fellowship *qua* physician and a fellowship *qua* surgeon registrable by the G.M.C. as an additional qualification (F.R.F.P.S.). Admission is by examination and subsequent election. Candidates for the fellowship in medicine must have been in possession of a recognised medical qualification for not less than three years, and must have been engaged during one of these years in full-time clinical work in a recognised hospital and have spent two other post-graduate years in approved medical work. The examination comprises a clinical examination in medicine, written and oral examinations in the principles of medicine

and medical pathology, and written and oral examinations in the practice of medicine and therapeutics. Candidates for admission to the fellowship in surgery are required to possess a recognised medical qualification and to pass a primary and a final examination. The primary examination consists of written and oral examinations in anatomy and in physiology, pathology, and bacteriology. Candidates who have passed the primary fellowship examination of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons of England, the Royal College of Surgeons in Ireland, or the Royal Australasian College of Surgeons will be exempted from the primary examination for the fellowship of the faculty *qua* surgeon. For admission to the final examination candidates must have been in possession of a recognised medical qualification for not less than three years and produce evidence that they have been engaged, after qualifying, for one year in full-time clinical work in a hospital approved by the council and for a further two years in the study of surgery. The final examination comprises a clinical examination in surgery, written and oral examinations in surgical anatomy and surgical pathology, and written and oral examinations in surgery. Alternatively, candidates may submit themselves for examination in one of the following subjects: obstetrics and gynæcology, ophthalmology, or otorhinolaryngology. Details may be had from the secretary of the Royal Faculty of Physicians and Surgeons, 242, St. Vincent Street, Glasgow, C.2.

Membership of the Royal College of Physicians of Ireland (M.R.C.P.I.) is granted on the result of an examination, the details of which may be obtained from the registrar of the college, 6, Kildare Street, Dublin. Fellows are elected by ballot from among the members, and receive the designation F.R.C.P.I.

Graduates seeking the fellowship of the Royal College of Surgeons in Ireland (F.R.C.S.I.) must pass in two examinations, a primary in anatomy, physiology, and the principles of pathology, and a final in surgery, including some pathology. There are three examinations each year. Exemption from the primary is given to candidates who have passed this examination since 1951 at either of the Royal Colleges of London, Edinburgh, or Australasia, or at the Royal Faculty of Glasgow. A full-time four-month course in preparation for the primary examination begins on Oct. 1 and March 1 each year: the number of places is limited. Further particulars may be obtained from the registrar, the Royal College of Surgeons in Ireland, Dublin.

The Faculty of Radiologists offers a fellowship (F.F.R.) to medical graduates of five years' standing who have spent at least one year in general clinical work at approved hospitals, hold a radiological diploma, and have practised radiology exclusively for at least two years after obtaining that diploma. Candidates are required to pass an examination in radiodiagnosis or radiotherapy, and in general medicine, general surgery, and pathology. Candidates who hold higher medical or surgical qualifications may be exempted from the examinations in general medicine, general surgery, or pathology. Full particulars may be obtained from the warden, the Faculty of Radiologists, 45, Lincoln's Inn Fields, London, W.C.2.

SPECIAL DEGREES AND DIPLOMAS

The regulations for the following diplomas can be obtained by applying to the examining bodies concerned.

Anæsthetics

The English and Irish Conjoint Boards offer diplomas in anæsthetics (D.A.). The Faculty of Anæsthetists grants a fellowship (F.F.A.) on examination.

Bacteriology

Diplomas in bacteriology are granted by the Universities of London and Manchester.

Child Health

Diplomas in child health (D.C.H.) are granted by the National University of Ireland and the English and Irish Conjoint Boards.

Clinical Pathology

The University of London offers a diploma in clinical pathology (D.C.P.).

Industrial Medicine

The Royal Faculty of Physicians and Surgeons of Glasgow, the Society of Apothecaries of London, and the English Conjoint Board offer diplomas in industrial health (D.I.H.).

Laryngology and Otology

The English Conjoint Board offers a diploma (D.L.O.) for those who have made a special study of the ear, nose, pharynx, and larynx. The final examination for the F.R.C.S. and for the F.R.F.P.S. may be taken in otolaryngology.

Microbiology

The University of Sheffield awards a diploma in this subject after a full-time course of study extending over one university session. Entrants will normally be expected to be graduates of a university, but the senate may deem other qualifications as equivalent for this purpose.

Obstetrics and Gynæcology

The Royal College of Obstetricians and Gynæcologists grants by examination a diploma (D.OBST.) to graduates with postgraduate hospital experience in general medicine or surgery and in obstetrics. The University of Dublin also offers a diploma (D.G.O.). The higher qualification granted by the Society of Apothecaries of London has already been mentioned. The final examination for the F.R.F.P.S. may be taken in obstetrics and gynæcology.

Ophthalmology

The English and Irish Conjoint Boards issue a diploma in ophthalmology (D.O. and D.O.M.S. respectively). The final examination for the F.R.C.S. and for the F.R.F.P.S. may be taken in ophthalmology.

Orthopædics

The University of Liverpool offers the degree of M.CH. ORTH. which is open to medical graduates of an approved university who hold the fellowship in surgery of one of the British colleges or of the American College of Surgeons.

Pathology

The English Conjoint Board offers a diploma in pathology (D.PATH.).

Physical Medicine

The English Conjoint Board offers a diploma in physical medicine (D.PHYS.MED.).

Psychological Medicine

The Universities of London, Bristol, Dublin, Durham, Edinburgh, Ireland (National University), Leeds, and Manchester, and the English and Irish Conjoint Boards offer diplomas in psychological medicine.

Public Health

A diploma in public health (D.P.H.) is granted by the English Conjoint Board and by all the universities of Great Britain, except Cambridge, Oxford, Birmingham, Reading, Sheffield, Nottingham, Southampton, Hull and Exeter, and also by the National University of Ireland.

Radiology

The Faculty of Radiology grants a fellowship (F.F.R.). The Universities of London and Edinburgh and the English Conjoint Board offer two diplomas—one in medical radiodiagnosis (D.M.R.D.) and one in medical radiotherapy (D.M.R.T.). The University of Liverpool offers a diploma D.M.R.(D.) or (T.) obtainable by examination after a two-year course in diagnosis or therapy: after a further two years diplomates may be awarded the M.RAD. by presentation of a thesis.

Tropical Medicine

A diploma in tropical medicine and hygiene (D.T.M. & H.) is granted by the University of Edinburgh, by the University of Liverpool jointly with the Liverpool School

of Tropical Medicine, and by the English Conjoint Board. The University of London has an academic postgraduate certificate and an academic postgraduate diploma in tropical medicine and hygiene.

Tuberculous Diseases

A diploma in tuberculous diseases (T.D.D.) is granted by the University of Wales.

DENTAL DEGREES AND DIPLOMAS

There are schools of dentistry at the Universities of London, Belfast, Birmingham, Bristol, Dublin, Durham, Edinburgh, Glasgow, Leeds, Liverpool, Manchester, Sheffield, and St. Andrews (at Queen's College, Dundee); and at the University Colleges of Dublin and Cork in the National University of Ireland. London University offers a B.D.S. and an M.D.S.; it also prepares students for the L.D.S. of the Royal College of Surgeons. This college has a fellowship in dental surgery (F.D.S.) and a diploma in orthodontics (DIP. ORTH.). A fellowship is also granted by the Royal College of Surgeons of Edinburgh. Edinburgh University offers a B.D.S. and an M.D.S., Leeds grants an L.D.S., a baccalaureate degree (B.CH.D.), and mastership (M.CH.D.), and Manchester grants an L.D.S., a B.D.S., an M.D.S., and also a doctorate in dental science (D.D.S.). Glasgow University and the University Colleges of Dublin and Cork grant a B.D.S. and an M.D.S., and Trinity College, Dublin, offers a B.DENT.SC. and an M.DENT.SC. St. Andrews no longer offers a diploma, but in its place a baccalaureate (B.D.S.), and it has also instituted a doctorate of dental science (D.D.SC.). It continues to offer a diploma in public dentistry (D.P.D.) and an M.D.S. All the other universities mentioned offer L.D.S., B.D.S., and M.D.S. Licences in dentistry are granted by the Royal College of Surgeons of Edinburgh, the Royal Faculty of Physicians and Surgeons of Glasgow, and the Royal College of Surgeons in Ireland. The Royal Faculty of Physicians and Surgeons confers a higher diploma in dental surgery (H.D.D.) and a diploma in orthodontics (D.D.O.).

Postgraduate Education

EACH university in the United Kingdom with a medical school is responsible for the postgraduate education of the region in which it is situated. Each has a postgraduate education committee with a dean or director of postgraduate studies as its executive officer.

IN LONDON

The three Royal Colleges and the British Postgraduate Medical Federation (University of London) coöperate in providing postgraduate education in the medical and dental specialties, supplementing the opportunities available at the undergraduate schools and the teaching hospitals. The services of the staff of the central office of the Federation, in advising on programmes of study and in making the necessary arrangements, are available to all postgraduates, including those from the Commonwealth and Empire, and from foreign countries. The individual postgraduate Institutes included in the Federation and their provisions for postgraduate study are set out below. Each of the three Royal Colleges arranges courses of lectures in the clinical aspects of its specialty, and provides expert advice on suitable hospital appointments and programmes of study for candidates for its higher qualifications.

British Postgraduate Medical Federation

The British Postgraduate Medical Federation, which is a school of the University of London, comprises the Postgraduate Medical School of London at Hammersmith Hospital (with its university departments of general medicine, general surgery, and pathology) and 14 Institutes, each associated with a special postgraduate teaching hospital or Royal College. The numbers of students that can be admitted to the clinical practice of the hospitals with which the Institutes are associated are limited; resident clinical appointments are available to suitable students of the Institutes, and provide the most valuable form of postgraduate education. There are opportunities for research by selected graduates. At all the Institutes courses of instruction are given throughout the academic year; they are suitable for graduates in the early stages of their specialist education and also for those who have completed their practical training. Two or more years of hospital work in general medicine and general surgery after graduation are normally advisable before commencing work in the special branches. The work at the Institutes is of an advanced type and is sufficiently comprehensive to enable graduates with suitable practical experience to prepare for higher degrees and diplomas. Emphasis is placed on clinical and laboratory teaching, supplemented by lectures and demonstrations. Each Institute has a reference library, and takes the current journals relevant to its specialty. The Federation awards annually a number of travelling fellowships, for the purpose of studying abroad, to graduates working in medical or dental schools or teaching hospitals of the University of London. Most Institutes run short courses for consultants, and a recent experiment has been courses for registrars. Short courses and other forms of continuing education for general medical and dental practitioners and local-authority medical officers are arranged at hospitals throughout the four Metropolitan regions, with the assistance of the regional advisers in postgraduate medical education. The Federation has arranged a seventh series of advanced lectures, entitled The Scientific Basis of Medicine, to be delivered two afternoons a week, at 5.30 P.M., at the London School of Hygiene and Tropical Medicine, during the autumn and winter terms of the 1956–57 session. The lectures are designed especially for research-workers and specialists in training and are open to all registered medical practitioners without fee. Further details are given in the advertisement columns of this issue.

It is essential for prospective postgraduate students from abroad to make their arrangements well in advance, and those who desire the assistance of the central office of the Federation are advised to get in touch with the Director of the Federation, Prof. Sir Francis Fraser, M.D., F.R.C.P., at the central office, 18, Guilford Street, London, W.C.1, as far in advance of their arrival in this country as possible. Those sponsored by their universities, governments, or other official bodies receive first consideration in the allotment of vacancies. Established specialists from overseas, here for a short time, who wish to see something of the practice of this country, are always welcome; they are regarded as visiting colleagues, and the experts in their specialties are always ready to receive them and let them accompany them in their work and teaching. An information bureau of postgraduate activities in London and other university centres is maintained at the central office.

THE POSTGRADUATE MEDICAL SCHOOL OF LONDON is associated with the Hammersmith Hospital. It has university departments in medicine, surgery, and pathology. The teaching in the clinical departments is based on ward work which is supplemented by lectures during three ten-week terms starting in January, April, and October. A course for the university diploma in clinical pathology, lasting one year, is available for a limited number of selected students. The department of radiology of the hospital provides courses for the diplomas in medical radiology of the Conjoint Board. A year's course in anæsthesia, consisting of lectures and clinical training, is also provided. All these courses begin in October. Facilities for research are available for selected students.

Address: Ducane Road, London, W.12.

THE INSTITUTE OF BASIC MEDICAL SCIENCES comprises the departments of anatomy, physiology, and pathology of the Royal College of Surgeons of England. The Institute coöperates with other specialist Institutes of the Federation in providing facilities for practical work and instruction in the basic medical sciences. There are opportunities for research for selected graduates. Full-time or part-time courses of 14 weeks' duration, suitable for candidates for higher degrees and diplomas, begin in February and September. A two-month revision course for primary F.D.S. candidates is held twice a year, beginning in January and June.

Address: Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C.2.

The INSTITUTE OF CANCER RESEARCH: ROYAL CANCER HOSPITAL comprises the Chester Beatty Research Institute and parts of the departments of physics and radiotherapy at the Royal Marsden Hospital. The Institute is concerned with all aspects of research into the causation and treatment of cancer, with the training of research-workers in this field, and with advanced teaching in biophysics and radiotherapy. Postgraduate lectures and courses of instruction are held in biophysics for students studying for the M.SC. degree in biophysics, and for students studying for a diploma in medical radiotherapy. These begin in October. Facilities are afforded to those wishing to pursue research in the clinical and pathological aspects of cancer, and for research into the physical and biological foundations of medical radiology. There are laboratories for chemical, biochemical, and histological investigations into cancer and allied diseases.

Address: Royal Marsden Hospital, Fulham Road, London, S.W.3.

The INSTITUTE OF CARDIOLOGY is associated with the National Heart Hospital. Six appointments in senior-registrar and registrar grades are available in the Hospital and the Institute to provide specialised training for postgraduates who have already had a sound grounding in general medicine. Full-time and part-time courses of instruction of about eleven weeks' duration are held three times annually, starting in January, April, and October. Normally two or three short intensive courses of lectures and demonstrations are held each year, but during the forthcoming rebuilding of the National Heart Hospital these will probably be suspended.

Address: 35, Wimpole Street, London, W.1.

The INSTITUTE OF CHILD HEALTH is associated with the Hospital for Sick Children and the Postgraduate Medical School at Hammersmith Hospital; the Queen Elizabeth Hospital for Children, Hackney, also participates in the clinical teaching of the Institute. The Province of Natal, Model Welfare Centre, offers facilities for the study and care of the healthy child. The Institute provides tuition throughout the year in three terms of three months each, and in addition a series of lectures by specialists in various spheres is given each term. Clinical clerkships are available for selected students.

Address: The Hospital for Sick Children, Great Ormond Street, W.C.1.

The INSTITUTE OF DENTAL SURGERY is associated with the Eastman Dental Hospital. The object of the Institute is to train dental practitioners in the special branches of preventive and therapeutic dentistry, both for children and adults, by means of clinical experience, lectures, demonstrations, and research. Courses of varying lengths are held from time to time in children's dentistry, orthodontics, conservative dentistry, periodontology, preventive dentistry, prosthetic dentistry, and oral surgery. For candidates preparing for the F.D.S. of the Royal College of Surgeons courses lasting eight months are held twice yearly commencing in October and May. For selected students junior staff appointments are available for this period. In March and October there are revision courses, lasting eight weeks, suitable for candidates for the final F.D.S. examination. A course in orthodontics, of six months' or a year's duration, commences in October.

Address: Eastman Dental Hospital, Gray's Inn Road, London, W.C.1.

The INSTITUTE OF DERMATOLOGY is associated with St. John's Hospital for Diseases of the Skin. Throughout the year clinical teaching takes place daily in the out-patient department and instruction is given in the in-patient unit at the Eastern Hospital. Tutorials in clinical dermatology and histopathology of the skin are given twice weekly during term time. There are also facilities for study and tuition in pathology, including mycology, radiotherapy, and physiotherapy. Advanced students can apply for clinical and research assistantships, the former of which are competitive. A short course of lectures and clinical demonstrations is given in May and June, and a longer course of six months from October to March. A discussion on cases of special interest, to which students attending the courses are invited, takes place once a week.

Address: St. John's Hospital for Diseases of the Skin, Lisle Street, Leicester Square, London, W.C.2.

The INSTITUTE OF DISEASES OF THE CHEST is associated with the Hospitals for Diseases of the Chest (Brompton Hospital and the London Chest Hospital). Students may enrol for one term or more on an approximately half-time course, and arrangements are made for students who intend to specialise in diseases of the chest to attend a whole-time comprehensive course during the two terms beginning in October and January. During the summer term there is a full-time advanced revision course. Courses consist of clinical work in wards and outpatient departments, lectures, and demonstrations. A small number of students with adequate experience can be accepted for training in thoracic surgery. Part-time instruction in radiology of the chest for trainee radiologists only is given each term. There are three terms annually, commencing in January, April, and October.

Address: Brompton Hospital, London, S.W.3.

The INSTITUTE OF LARYNGOLOGY AND OTOLOGY is associated with the Royal National Throat, Nose and Ear Hospital. A comprehensive full-time course lasting eight months is held twice a year, commencing in February and September; the first three months are devoted to a study of the basic sciences of the specialty, and the following five months are concerned with the clinical aspect of the subject. A part-time advanced revision course lasting ten or twelve weeks, suitable for students preparing for the higher qualifications, is held twice yearly, commencing in February and August. Courses in special subjects, such as endoscopy, audiology, pathology, and aural surgery, are held from time to time.

Address: 330, Gray's Inn Road, London, W.C.1.

The INSTITUTE OF NEUROLOGY is associated with the National Hospital and the Maida Vale Hospital for Nervous Diseases, which jointly form a teaching hospital. The teaching is mainly by attendance on the hospital practice, supplemented by lectures and demonstrations. Two courses in clinical neurology are held annually commencing in January and October. Clinical instruction in neurosurgery is given throughout the year. Courses of clinical demonstrations (two weekly) are held several times a year. A course in the technique and clinical application of electro-encephalography is held jointly with the Institute of Psychiatry twice a year. Advanced students are appointed as clinical clerks in the wards or attached to the special departments and research laboratories.

Address: National Hospital for Nervous Diseases, Queen Square, London, W.C.1.

The INSTITUTE OF OBSTETRICS AND GYNÆCOLOGY is associated with Queen Charlotte's Maternity Hospital, the Chelsea Hospital for Women, and the Department of Obstetrics and Gynæcology at the Postgraduate Medical School. The teaching is based on ward work and is supplemented by lectures and demonstrations during two terms of thirteen weeks' duration, which commence in March and September. Short intensive courses of a fortnight's duration, held in June and December each year, are suitable for students preparing for the higher qualifications. A week's course for general practitioners is held twice a year.

Address: Chelsea Hospital for Women, Dovehouse Street, London, S.W.3.

The INSTITUTE OF OPHTHALMOLOGY is associated with the Moorfields, Westminster and Central Eye Hospital. In addition to teaching by means of attendance on the hospital practice, a routine lecture and tutorial course, normally covering two terms of approximately eighteen weeks each, is held twice a year commencing in March and October; the first part of the course is devoted to anatomy, embryology, histology, physiology, optics, and elementary clinical instruction, and the second part comprises bacteriology, pathology, operative surgery, medical ophthalmology, and all aspects of ophthalmic disease. Short courses are held in slit-lamp microscopy, orthoptics, and contact-lens practice. Clinical teaching

and lectures are given at a higher level for advanced students. There are facilities for research for suitably qualified candidates.

Address: Judd Street, London, W.C.1.

The INSTITUTE OF ORTHOPÆDICS is associated with the Royal National Orthopædic Hospital. A complete training in orthopædics to selected graduates who have already been trained in general surgery and the basic sciences is afforded by means of clinical appointments covering a period of two or three years, with opportunities for research. For graduates requiring a less extensive period of education in the specialty, and especially for those who have acquired practical experience overseas or elsewhere, advanced courses are held at various times during the year. These are of seven to ten days' duration. Twice a year, in the spring and autumn, a short revision course of a week's duration in advanced clinical orthopædics is held. Both the central hospital in Great Portland Street and the country hospital at Stanmore are attended by postgraduate students.

Address: Royal National Orthopædic Hospital, 234, Great Portland Street, London, W.1.

The INSTITUTE OF PSYCHIATRY is associated with the Bethlem Royal Hospital and the Maudsley Hospital. Training normally covers two or three years, after experience elsewhere in general medicine, and is based on responsible hospital duties under supervision. Regular series of lectures and demonstrations are given throughout each of the university terms; clinical training continues throughout the year and includes seminars and case-discussions. Students who, because of previous experience, do not wish to take the comprehensive two-year course are able to attend limited series of lectures and clinical instruction. For those who wish to specialise in child psychiatry a six-month course is held twice yearly. A course in the technique and clinical application of electro-encephalography is held jointly with the Institute of Neurology twice a year. A year's course in abnormal psychology for the university postgraduate diploma in psychology is available to holders of an honours degree in psychology. There are facilities for original investigations under supervision in the clinical departments and in the psychological, neuropathological, neuro-endocrinological, electrophysiological, and biochemical departments.

Address: Maudsley Hospital, Denmark Hill, London, S.E.5.

The INSTITUTE OF UROLOGY is associated with St. Peter's, St. Paul's, and St. Philip's Hospitals. Comprehensive instruction is given in the wards, outpatient departments, operating-theatres, laboratories, &c., throughout the year. Weekend courses of demonstrations and lectures are held from time to time for higher examination candidates. In addition lectures on venereology are arranged from time to time in coöperation with the Medical Society for the Study of Venereal Diseases and arrangements can be made for graduates to attend a venereal-diseases clinic. In the winter months a series of lecture-discussions on urological subjects of interest to the whole profession are held on Wednesday evenings at 5 o'clock. Limited numbers of clinical assistants are appointed from time to time to individual surgeons for personal tuition, and there are also research assistantships.

Address: 10, Henrietta Street, London, W.C.2.

ROYAL COLLEGES, HOSPITALS, SCHOOLS, &c.

The ROYAL COLLEGE OF SURGEONS OF ENGLAND has arranged a number of lectures and demonstrations to be held at the collége. A full-time clinical surgery course will be held in September and October, 1956, and in February and March, 1957. This will be limited to 12 students. In addition two series of 24 surgery lectures will be given during October and April and at the same time clinical conferences will be arranged at selected hospitals. In anæsthesia two series, each of 40 lectures, clinical conferences, and discussion groups, will be given in October and April. Courses extending over a period of from one to two years are arranged. Periodic courses of 20 lectures in pharmacology are also arranged. Lectures and clinical demonstrations in oral, dental, and general surgery will be held in conjunction with the Institute of Dental Surgery in May and October. Lectures and courses are arranged during the year jointly with the Institutes of Laryngology and Otology, Urology, and Ophthalmology. Specialists are available for consultation on postgraduate training in general surgery, dental surgery, plastic surgery, and anæsthetics. Facilities are now available for advice on postgraduate orthopædic training through the postgraduate orthopædic committee which has its headquarters at the college. Residential accommodation is available in the college. The Institute of Basic Medical Sciences, formed jointly by the college and the British Postgraduate Medical Federation, has arranged a programme of postgraduate teaching in the basic medical sciences (see above). Information on all these courses may be had from Mr. W. F. Davis, Deputy Secretary, Royal College of Surgeons, Lincoln's Inn Fields, London, W.C.2.

The ROYAL COLLEGE OF SURGEONS IN IRELAND gives a four-month course in anatomy in preparation for the primary fellowship examinations. There are two courses in each year, one starting in October for the February examination and the other in March for the July examination, but students may join the course at any time. This is a fully comprehensive course. In addition there will be less extensive courses in physiology and pathology. Details may be had from the registrar of the college.

At ST. MARK'S HOSPITAL, City-road, London, E.C.1, surgeons wishing to specialise in proctology may attend courses of one to six months, and postgraduate students working for higher degrees may come for one to four weeks' whole-time study. Intensive courses, each lasting two weeks, are held in conjunction with the Fellowship of Postgraduate Medicine three or four times a year.

The LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE offers a number of courses. The following last for one academic year of nine months. The course for the University of London's academic postgraduate diploma in *public health*, commencing each year at about the beginning of October, is designed primarily for qualified medical practitioners who intend to engage in any branch of preventive medicine. There are now no vacancies on the course beginning Oct. 1, 1956. Students may elect to make a special study of one of the following: (1) occupational health; (2) medical statistics and epidemiology: (3) local government; (4) child health; or (5) tropical hygiene. The industrial-health elective, plus practical work and attendance at clinics, arranged by the school, is recognised by the Conjoint Board and the Society of Apothecaries as fulfilling the requirements for entry to examination for the diploma in *industrial health*. The course for the University of London's academic postgraduate diploma in *bacteriology*, commencing about the beginning of October each year, is intended to give advanced instruction to graduates in medicine, science (including veterinary science), or pharmacy who intend to follow a career in bacteriology. There are now no vacancies on the 1956–57 course. Applications for the subsequent session must be received not later than March 1, 1957. The number of places is strictly limited. The course of study for the University of London's academic postgraduate certificate and diploma in *tropical medicine and hygiene*, commencing about the beginning of October each year, is designed to give advanced training in tropical medicine. The whole course lasts for about 9 months of which the preliminary C.T.M. & H. course occupies approximately the first 4½ months. The final course consists of advanced study in one of two fields—clinical tropical medicine or tropical hygiene. A course for the University of London's academic postgraduate certificate and diploma in *applied parasitology and entomology* will begin on Oct. 1, 1956, and thereafter about the beginning of each October. The course, which is open to candidates with acceptable qualifications in medicine, veterinary medicine, veterinary science and science, lasts for an academic year of full-time study, the preliminary certificate course extending over about the first five months. The course is planned mainly for people wishing to take up research or labora-

tory appointments abroad. The course for the Conjoint Board's diploma in *tropical medicine and hygiene* is a continuous one lasting five months, and is held twice a year. The next courses begin on Oct. 1, 1956, and Feb. 25, 1957. A course in *statistical methods* applied to medicine and epidemiology is held annually on two days a week from about the beginning of March to about the end of June. Students without a medical qualification can be accepted. A short course in *environmental control* begins on Oct. 1, 1956. There are two courses a year, each of ten weeks' duration, commencing at about the beginning of October and March. Although intended primarily for health inspectors from abroad, the course is so planned as to be of value to medical officers and others interested in the health aspects of environmental control both at home and abroad. The course includes a series of lectures on the broad public-health field, visits to places of special interest, practical instruction with a port health authority, and work with both a county borough council and a rural district council. Candidates will be expected to attend either the congress of the Royal Sanitary Institute or the conference of the Sanitary Inspectors Association.

The ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE conducts recognised courses of instruction for postgraduate medical men and women for the Conjoint Board diplomas in public health and industrial health, and for the diploma in industrial health of the Society of Apothecaries of London. All lectures are given by specialists in the various subjects laid down by the syllabuses. For the diploma in public health, arrangements are made for the practical work to be carried out at a county borough. For both diplomas visits are made to places, such as factories, which are of public-health and industrial-health interest. These courses of instruction, which may be taken whole-time or part-time, start annually in March and September; the next begins on Sept. 28. Further information, entry forms, and regulations and syllabuses may be obtained from the Secretary of the Institute, 28, Portland Place, London, W.1, or from the Acting Dean, at 23, Queen Square, London, W.C.1.

The TAVISTOCK CLINIC is an outpatient centre devoted to psychotherapy both of adults and of children on broadly psycho-analytic lines, and to providing training in certain skills in this field. Special attention is at present being given to the development of techniques in handling parents of disturbed children, in marital problems, and to group therapy of adults. In addition, the clinic and the associated Tavistock Institute of Human Relations are engaged in research in the fields of child development, personality, preventive psychiatry, and applied social science. A number of registrar and senior registrar posts are established in the adult and the children's and parents' departments. The following courses of training are available; (1) a two-year full-time course in child psychiatry (for registrars); (2) a two-year part-time course in elementary psychotherapy, including group experience (open to selected trainee psychiatrists from other N.H.S. institutions); (3) introductory courses for general practitioners dealing with the patient-doctor relationship and with psychological factors in ill health; (4) a more advanced two-year course in psychotherapy in general practice for limited numbers of family doctors; (5) several courses in the Rorschach method of personality assessment (by arrangement with the Institute of Human Relations), open to doctors with relevant experience. In addition there are training courses in clinical psychology, educational psychology, advanced social case-work, and child psychotherapy, open to graduate psychologists (non-medical) and social workers, in some instances during their tenure of trainee posts or fellowships. Both sides of the clinic also conduct regular case-conferences and other types of instruction with their internal students which may be open to a limited number of suitably qualified professional workers from home or overseas on request and by permission. Further information may be had from the Medical Director, 2, Beaumont Street, London, W.1.

The TAVISTOCK INSTITUTE OF HUMAN RELATIONS is concerned with applied social research in problems which may cover the family, the factory, the hospital, or the community. Further information may be obtained from the Secretary, Tavistock Institute of Human Relations, 2, Beaumont Street, London, W.1.

The INSTITUTE OF PSYCHO-ANALYSIS, 63, New Cavendish Street, London, W.1, provides training in psycho-analytic theory and technique. The course is part-time and lasts about four years. It includes a personal analysis, attendance at lectures and seminars (held in the evenings), and clinical work done under supervision. Students are required to obtain general psychiatric experience at other clinics and hospitals since the Institute does not set out to teach psychiatry. Completion of the course to the satisfaction of the training committee qualifies the student for independent work as a psycho-analyst. On the recommendation of the training committee, the student is elected an associate member of the British Psycho-Analytical Society. Training in child analysis is available for senior students.

The FELLOWSHIP OF POSTGRADUATE MEDICINE was founded in 1918. The Fellowship, whose offices are at 60, Portland Place, London, W.1, provides a bureau of general information on postgraduate work, and also arranges various courses of instruction to suit the special needs of postgraduates whose requirements are not met by other existing programmes. The Fellowship's arrangements include:

(1) Weekend courses, occupying the whole of a Saturday and Sunday. These are given in various hospitals in such subjects as infectious diseases, general medicine, the rheumatic diseases, orthopædics plastic surgery, and clinical surgery.

(2) Courses specially suitable for, though not restricted to, candidates for the D.C.H., D.OBST., M.R.C.P., and F.R.C.S. (final). These include general medicine, general surgery, proctology, midwifery, and children's diseases. Some are full-time courses, lasting one or two weeks; others are spread over longer periods, taking place in the mornings, afternoons, or late afternoons; they are intended particularly for postgraduates not free for full-time study.

The *Postgraduate Medical Journal*, the official organ of the Fellowship, is published monthly and contains a special section devoted to general postgraduate news and information about the work carried on in all the main centres of teaching throughout the British Isles. The Journal can be obtained by subscription or in single copies.

The TUBERCULOSIS EDUCATIONAL INSTITUTE is a body composed of representatives from the Joint Tuberculosis Council and the National Association for the Prevention of Tuberculosis. The Institute organises lecture and demonstration courses at home and overseas for doctors, and at home university centres for doctors, nurses, health visitors, social workers, and administrators. Intensive three-day clinical courses for doctors are held throughout the year at King George V Hospital for Diseases of the Chest, Godalming, Colindale Hospital, London, and Tor-na-Dee Sanatorium, Scotland. Short weekend lecture courses are arranged locally for general practitioners. Particulars of courses may be obtained from the Secretary, Tuberculosis Educational Institute, Tavistock House North, Tavistock Square, London, W.C.1.

PROVINCES

Birmingham

The Board of Graduate Studies tries to provide courses of instruction for general practitioners on a scale adequate to satisfy the demands of doctors practising in Warwickshire, Worcestershire, Staffordshire, Shropshire, and Herefordshire. Practitioners from further afield, particularly Birmingham graduates, are welcomed. Extended courses in medicine and general surgery, dentistry, and midwifery are held at the teaching and regional hospitals; and weekend courses in pædiatrics are held at frequent intervals at the Children's Hospital, Birmingham, and in neurology, neurosurgery, psychiatry, and psychotherapy at the Queen Elizabeth Hospital, Birmingham, the Midland Centre for Neurosurgery, and Uffculme

Clinic. In the postgraduate arrangements for general practitioners, the board coöperates closely with the Midland Faculty of the College of General Practitioners. Short intensive courses in industrial ophthalmology are held at the Birmingham and Midland Eye Hospital, usually in the month of July. The University does not offer any diplomas and, with the exception of the Conjoint diploma in psychological medicine, the Board of Graduate Studies does not offer any courses of instruction for higher and specialist examinations. In order to assist the junior staff of regional mental and psychiatric hospitals, courses of instruction for part I and part II of the D.P.M. of the Conjoint Board are held in alternate academic years. The board arranges attachments for increasing numbers of postgraduates from abroad who wish to come to Birmingham for long or short periods as observers or to work in the various departments of the medical school or teaching or regional hospitals. In conjunction with the department of social medicine of the University, the board has a number of research projects in progress in which the field work is being done by general practitioners. The chairman of the Board of Graduate Studies is Dr. A. G. W. Whitfield, The Medical School, Edgbaston, Birmingham, 15.

The Institute of Accident Surgery, which is affiliated to the Board of Graduate Studies, holds short intensive courses of instruction in traumatic surgery at the Birmingham Accident Hospital. Some courses cater for the needs of surgeons and surgical trainees; others are planned to help industrial medical officers and industrial nurses; and others are solely for general practitioners.

Bristol

The degrees of doctor of medicine (M.D.), master of surgery (CH.M.), and doctor of philosophy (PH.D.) are open to graduates of other universities, but only to those candidates who have pursued original research in the university for not less than two years. In effect, this regulation means that these higher degrees are open only to those graduates of other universities who hold appointments on the staff of the University or of one of the Bristol hospitals. The University diploma in psychological medicine is in abeyance. The University offers a diploma in public health, but no course will be held in the session 1956–57. A few postgraduates are accepted for training for the D.M.R.D. and D.M.R.T. (Conjoint) and arrangements can sometimes be made for suitable candidates to hold a part-time post in the Bristol hospitals while doing the course. A course in child health lasting three months usually begins in October of each year. Refresher courses for general practitioners consist of Sunday morning lecture-demonstrations in Bristol and occasional intensive weekend courses at hospitals in various parts of the South-West region.

Cambridge

The School of Postgraduate Teaching and Clinical Research at present comprises the departments of medicine, experimental medicine, radiotherapeutics, and human ecology. In the John Bonnett Clinical Laboratories, pathological and biochemical services of the United Cambridge Hospitals are provided by university teaching officers under the direction of the professors of pathology and biochemistry. Particulars of the research activities of the school are given in the departmental annual reports which are published in the *Cambridge University Reporter* in February each year. From their inception, the medical school and its constituent departments have been closely linked with the United Cambridge Hospitals. The Minister of Health's decision to allot money for the development of a new hospital on the Hills Road site has been received with great satisfaction. The first stage of this scheme—to provide an outpatient department with a small number of beds—has been included in a list of projects from which it is proposed to make a selection for work to be started in 1957 or early in 1958. Between October and July in each academic year special sessions are devoted to teaching by members of the consultant staff of the United Cambridge Hospitals. A small number of undergraduate students are admitted to these teaching sessions. Other teaching activities include a clinicopathological conference held on the third Wednesday of each month, which gives an opportunity for general practitioners and others to meet the staffs of the teaching hospital and of the various departments of the medical school. One-day symposia on subjects of particular interest to general practitioners are held monthly on Saturdays throughout the academic year. These symposia usually take the form of lecture-discussions followed by case-demonstrations. Residential courses in midwifery are available for undergraduate and postgraduate students at the Maternity Hospital. All postgraduate courses and symposia are open, without fee, subject to the terms of the Ministry of Health scheme, to practitioners who are under contract with an executive council of the National Health Service, and who have not less than 500 (or in the case of a rural practice 250) persons on their N.H.S. lists. It is no longer necessary for a practitioner to submit an application for approval to the Ministry of Health before attending these symposia unless he wishes to claim for the employment of a locum. A practitioner who does not qualify for a grant under the Ministry of Health postgraduate scheme is charged a fee at a rate corresponding to that which would otherwise have been payable by the Ministry. The director of postgraduate education for the Cambridge region is the regius professor of physic, Sir Lionel Whitby. Practitioners desiring further details of postgraduate facilities should apply to the Secretary of the Medical School, Tennis Court Road, Cambridge.

Durham

Courses for the Durham diplomas in public health and psychological medicine have been held as usual during the year. 8 candidates were awarded the D.P.H. and 2 passed part III of the D.P.M. and obtained their diplomas. Several refresher courses for general practitioners have again been held. These consisted of: (i) an intensive weekend course in pædiatrics; (ii) extended courses consisting of 9 Tuesday or Thursday afternoon sessions in various subjects; (iii) an extended course of 6 sessions held in the Cumberland Infirmary for practitioners in the Carlisle area; and (iv) an intensive weekend course in obstetrics. In addition arrangements are made whereby one practitioner at a time is attached to the Maternity Hospital for a resident course in obstetrics lasting two weeks. Approximately 100 practitioners have attended these courses during the year. Postgraduate instruction in anatomy, physiology, pathology, and bacteriology and other subjects of the medical curriculum is available by agreement with the professors of the departments concerned. Several postgraduate students from overseas have been provided with suitable courses and research facilities leading to higher degrees.

Leeds

The University of Leeds grants two postgraduate diplomas, the diploma in public health and the diploma in psychological medicine. Both are now part-time courses, that for the diploma in public health being five terms, the certificate in public health being taken after two terms. The course for the diploma in psychological medicine covers eight academic terms. Extended refresher courses for general practitioners, comprising one half-day session a week for six weeks, and weekend refresher courses on special topics are arranged from time to time both in the teaching hospitals and in regional hospitals. The secretary of the postgraduate committee is Dr. T. A. Divine, School of Medicine, Thoresby Place, Leeds, 2.

Liverpool

Out of a total of 700 students in the medical school, 164 are postgraduates. Full-time postgraduate courses have continued as in previous years. 11 attended the course in general surgery, 20 in orthopædic surgery, 20 in public health, 17 in anæsthesia, 15 in radiodiagnosis, 8 in radiotherapy, and 51 in tropical medicine and hygiene. 10 candidates have taken the course in psychological medicine; 6 took part I (basic subjects) and 4 took part II (clinical subjects). This is part-time and covers a period of two years and is suitable for candidates for the Conjoint D.P.M. The course in psychology has been much expanded and improved in the light of experience. An encouraging feature is that students who obtained their medical qualification at Liverpool form an increas-

ing proportion of those seeking a higher qualification in psychiatry. The course in general surgery is suitable for candidates who have already completed the primary examination for the F.R.C.S., but candidates for the course in orthopædic surgery must already hold the F.R.C.S. in order to be eligible to take the examination for the degree of M.CH.ORTH. The courses leading to the D.M.R.D. and D.M.R.T. extend over two years. Candidates usually hold hospital registrar appointments during the second year. 3 more candidates than usual have been accepted for the course in radiodiagnosis following conversations with the Ministry of Health who were anxious to increase the number of trainees in radiology. Liverpool, which is now the oldest radiology school in the country, is responsible for some one-sixth to one-third of the total number of trainees available in this country. In the course in anæsthetics students are found appointments in recognised general hospitals for the purpose of gaining practical experience. In pædiatrics, special ward rounds are held weekly by Prof. N. B. Capon for postgraduates at Alder Hey Children's Hospital. Further information about these courses may be obtained from the dean of the faculty of medicine.

The Liverpool School of Tropical Medicine offers a course of instruction for the diploma in tropical medicine and hygiene granted by the University of Liverpool. Two such courses are held each year, starting in the middle of September and at the beginning of January and continuing for approximately three months. Only those students who hold a medical qualification registrable in the United Kingdom or otherwise recognised by the University, and who have attended the approved course of instruction in this school, are eligible to sit for this diploma. The school also provides courses in parasitology and entomology for students taking the diploma in public health granted by the University of Liverpool. Courses of instruction in veterinary parasitology and entomology are given during each academic session to Liverpool University undergraduates taking the M.R.C.V.S. diploma and B.V.SC. degree. Facilities are offered to certain graduates who wish to carry out individual pieces of research work.

Manchester

Courses in preparation for the diplomas in psychological medicine, public health, radiodiagnosis, and radiotherapy have been held. No intensive refresher courses for general practitioners have been held during the session, but Sunday morning ward rounds have been introduced at several hospitals and this type of instruction appears to fill the need. The dean of postgraduate medical studies is Mr. R. L. Newell, F.R.C.S., who is available for consultation by appointment.

Oxford

The University committee responsible for postgraduate medical studies has recently been reconstituted and its duties made the subject of a new University statute. The first duties of this committee will be to meet the obligations imposed upon the University by Act of Parliament—namely, keeping general practitioners informed of the latest developments in professional knowledge, and approving hospitals and posts therein for preregistration purposes. Facilities for postgraduate medical studies are available in the Nuffield professorial departments of the University under the professors of medicine, surgery, obstetrics and gynæcology, anæsthetics, orthopædic surgery, and plastic surgery. Certain clinical appointments on the staff of these departments are open to specialist trainees from the Commonwealth. In addition to the provision made in these departments for the training of specialists, there are approximately 20 trainee appointments in the teaching hospitals (the United Oxford Hospitals) and 11 in certain departments of selected non-teaching hospitals of the Oxford region. These appointments (senior registrars) are in the following branches of medicine: general medicine, pædiatrics, psychological medicine, chest diseases, pathology, general surgery, orthopædics and accident services, otolaryngology, ophthalmology, obstetrics and gynæcology, neurosurgery, plastic surgery, dental surgery, and radiology. 6 of these are "paired" posts, the holders of which spend part of their period of training in a teaching hospital and part in a non-teaching hospital. Facilities for the continuing education of general practitioners are provided in hospitals at Oxford, Reading, Aylesbury, and Northampton. Most departments of the United Oxford Hospitals may be visited by general practitioners on certain days throughout the clinical year (September to July). Practitioners may follow either an intensive course of a week or a fortnight's duration (when programmes are arranged to suit individual requirements) or an extended course spread over a number of weeks or months. In addition special short courses are arranged for general practitioners during the spring and autumn months. All inquiries should be made to the Director of Postgraduate Medical Studies, Osler House, 43, Woodstock Road, Oxford, from whom further details of long and short courses may be obtained.

Sheffield

Ordinances and regulations have been introduced which give effect to the General Medical Council's recent recommendations regarding the diploma in public health, and it is intended to begin courses (which may be taken part-time) in October. It is hoped to resume in 1956–57 the exchange at intern (preregistration) level between the Sheffield school and that of Albany, N.Y. A review of the preregistration posts throughout the region is being undertaken, partly to determine whether a proper balance is being maintained between such posts and those required by graduates at a later stage of training. The problem of interchange of senior registrars between teaching and regional hospitals is still being studied. It is hoped to repeat in September, a refresher course for general practitioners similar to the one which was very well received in 1955. Regular twice-weekly ward rounds for general practitioners were held in both the Michaelmas and the Lent terms of 1955–56, and a similar programme is planned for next session. Courses for the D.M.R.D. and D.M.R.T. of the Conjoint Board are being held as in previous years, as well as less formal instruction in pædiatrics, general medicine, and general surgery. In relation to pædiatrics, it may be noted that a number of graduates attend the Children's Hospital throughout every session; over the last few years, 64 have attended, from 20 different countries.

WALES

Cardiff

The following courses are being arranged:

(1) A fortnight's postgraduate course for general practitioners in the spring and autumn.

(2) A six-month course for the diploma in tuberculous diseases (January-June).

(3) A short course in tuberculosis and diseases of the chest for men in H.M. Oversea Service (October-December).

(4) A part-time course for the diploma in public health spread over two academic years (beginning in October every other year).

A standing arrangement exists between the medical school (through its professorial departments), the United Cardiff Hospitals, and the Welsh Regional Hospital Board for regional consultants to spend short periods in Cardiff; this goes on throughout the year. Regular postgraduate teaching is organised in some of the medical school departments in the United Cardiff Hospitals during the academic terms. Inquiries should be addressed to the Dean of Postgraduate Studies, 34, Newport Road, Cardiff.

SCOTLAND

Aberdeen

Fortnightly refresher courses are held each year, mainly for general practitioners, which cover recent advances in medicine, surgery, obstetrics, pædiatrics, and other specialties. From time to time extended courses of eight or ten weekly afternoon meetings are held. There is also occasionally a Sunday-morning course for general practitioners when they can attend two lectures each Sunday for seven weeks, on subjects in medicine, surgery, pædiatrics, and midwifery. The main postgraduate training is that given to registrars in all the departments of medicine. In these posts registrars are rotated round the different wards and hospitals in their own specialty, and also they spend periods of three months in related

departments. A surgical registrar, for example, will go round the general surgical wards of the region but will also receive training in thoracic surgery, neurosurgery, orthopædics, pædiatric surgery, and otolaryngology. In the same way a medical registrar will act for a time in a similar position in the children's and fever hospitals.

Edinburgh

Postgraduate teaching in Edinburgh is arranged by the University in collaboration with the Royal Colleges of Physicians and Surgeons of Edinburgh. The courses are administered by the Edinburgh Post-Graduate Board for Medicine and cover the subjects of internal medicine, general surgery, and basic medical sciences, in addition to refresher courses for general and dental practitioners. Two courses in internal medicine, lasting twelve weeks, start in April and October each year. These courses comprise lectures, lecture-demonstrations, clinical teaching, and clinical-pathological demonstrations; they are suitable for graduates wishing to specialise in medicine or who require a refresher course in the current outlook on internal medicine. Two courses in general surgery are held each year, starting in March and October. These courses last twelve weeks and provide coördinated instruction in general surgery and in the specialist branches of surgery. Clinical teaching in the wards of the Edinburgh Royal Infirmary and other general and specialist surgical units in the city has been arranged. Graduates are thus able to spend a period in each unit, following the work of the department and obtaining systematic instruction. A comprehensive course in the medical sciences of anatomy, physiology, pathology, bacteriology, and biochemistry is held in the summer; three hundred hours of instruction are given in this course, over a hundred of which are devoted to practical teaching, including work in an anatomy department. This course is suitable for those requiring a final preparation in these subjects. It is desirable that those taking this course should already have considerable basic knowledge. Similar basic-science courses of ten weeks' duration, starting in October and March, are organised by the Royal College of Surgeons under the ægis of the Post-Graduate Board.

The fourteen-day general-practitioners' course, held in May each year, provides teaching either at the bedside or by means of lecture-demonstrations. Emphasis is laid on recent advances in treatment, and free discussion, as well as constructive criticism by members of the course, is encouraged. Instruction for local general and dental practitioners is arranged throughout the autumn term. In addition, courses of one day's duration, on selected subjects, are held at intervals throughout the year. Courses are often booked up several months in advance, so those intending to apply should do so early. Applicants should write, giving particulars of their medical qualifications and postgraduate experience, to the Director of Post-Graduate Studies, Surgeons' Hall, Edinburgh, 8.

Glasgow

Glasgow University Postgraduate Medical Education Committee, representing the University and the Royal Faculty of Physicians and Surgeons of Glasgow, propose to offer the following courses during the coming session. An eight-week part-time course of instruction in anatomy, physiology, biochemistry, pathology, and bacteriology will be held, as in previous years, from October to December. The course is suitable for candidates preparing for the primary examinations for the surgical fellowships and will provide a total of approximately 160 hours of instruction. The course is organised primarily for the junior staff of hospitals in the Western Region of Scotland, but it is also open to other applicants. An honorary part-time clinical attachment can be arranged for members of the course who have no hospital appointment. The medical school provides an annual course for the diploma in public health, and also a course for the diploma in industrial health in any year in which there are sufficient applicants. Short courses in other specialties are arranged from time to time when the demand arises, and are advertised in the medical journals. For the ensuing session, a short course in chemotherapy and a course in mental deficiency have already been arranged. Training in radiodiagnosis and radiotherapy, recognised for the D.M.R.D. and D.M.R.T., is available. Refresher courses for general practitioners are held from time to time; these consist largely of clinical demonstrations, but also include a few lectures on modern methods of treatment. A recent very successful addition to the range of postgraduate courses has been the institution of short, intensive courses on the use of radioactive isotopes. These courses are organised by the staff of, and held in, the regional physics department, a department instituted by the regional hospital board to advise and assist their hospitals on matters concerned with the use of isotopes and electronic apparatus.

St. Andrews

The type of education and training which is offered in the university and its associated hospitals differs somewhat from that in other parts of the country. A large number of those in training in the university laboratories and attending postgraduate lectures are registrars and senior registrars within the hospital service of the region. There are, however, a certain number of vacancies always reserved for overseas students. The university has made available to first-year registrars laboratory training in anatomy and physiology with particular emphasis on one or the other, depending on whether the registrar has surgical or medical leanings. In the second-year registrar posts, the University laboratories of pathology, biochemistry, bacteriology, and pharmacology are open to the registrars, and they may elect to study two of these subjects during any academic year. By arrangement with the regional hospital board, the registrars are free from hospital responsibilities during several afternoons a week to enable them to receive further education. In addition to this registrars of all grades attend weekly open postgraduate lectures and there are weekly colloquia and clinical-pathological conferences. The number of registrars attending any university department at one time is not more than six, and this allows of personal tuition by the professor and his staff. The director of postgraduate education is Prof. R. B. Hunter, F.R.C.P.E., Medical School, University of St. Andrews, Small's Wynd, Dundee.

IRELAND

Dublin

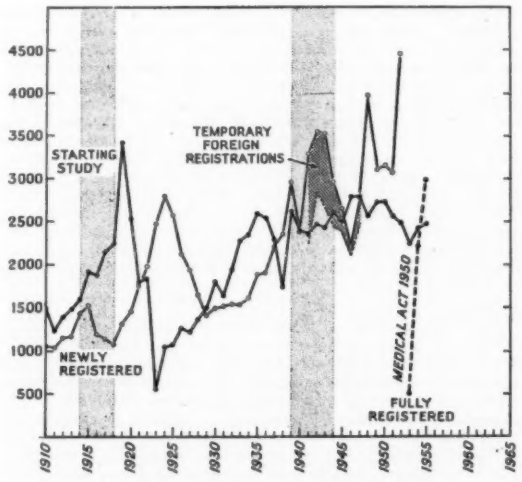
The only postgraduate course at present available for other than Dublin graduates is that for the diploma in gynæcology and obstetrics. New regulations for this diploma have been introduced, and the number of places in the course has been limited to 15. The diploma in psychological medicine is confined to graduates of the University. The diploma in public health is temporarily in abeyance. Arrangements are being made for a postgraduate course in clinical medicine during the long vacation in 1957.

REGISTRATION

NO-ONE is a legally qualified medical practitioner unless his name appears on the Register kept by the General Medical Council. In the field of medical education the Council has a statutory responsibility for ensuring that the courses of study and examinations for any qualification conferring a title to registration do not fall below a proper minimum standard. The Council, through its Medical Disciplinary Committee, is also responsible for discipline within the profession. The Medical Act, 1950, and Orders and Regulations made under it, provide that a person will not be eligible for full registration until he has, after passing a qualifying examination, served as a house-officer in approved hospitals or institutions for twelve months. During this period he would be provisionally registered.

The approximate number of second-year students admitted to medical schools in the United Kingdom and in Ireland was 2573 during 1948–49, 2734 during 1949–50, 2725 during 1950–51, 2565 during 1951–52, 2494 during 1952–53, 2280 during 1953, 2437 during 1954, and 2485 during 1955.

The numbers newly registered (including Commonwealth practitioners) were: in 1949, 3109; in 1950, 3160; in 1951, 3075; in 1952, 4493; in 1953, 2320 (507 fully registered and 1813 provisionally registered);

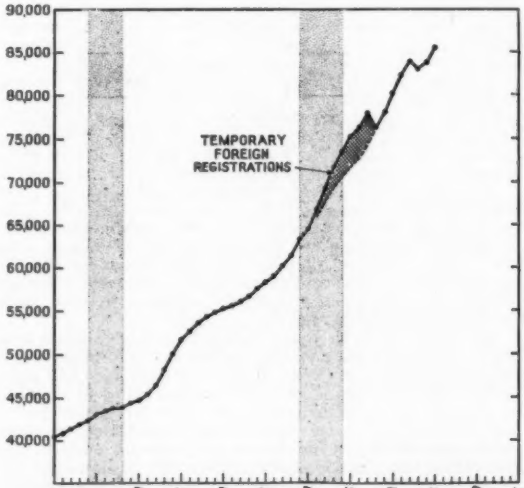


Numbers starting study and registering.*

* The numbers shown as starting study are taken from the Medical Students' Register up to 1938; and since then from returns made by the medical schools to the General Medical Council. Both forms of notification are incomplete for certain years. Starting with 1953, the figure is based on the annual examination returns and covers the calendar year instead of the academic year as formerly.

in 1954, 4542 (2222 fully registered and 2320 provisionally registered); and in 1955, 5310 (2992 fully registered and 2318 provisionally registered). The 1954 and 1955 totals include, of course, a considerable proportion of those provisionally registered in the previous year.

The number obtaining provisional and full registration in 1953 was much lower than in the preceding five years. This is attributable to two things: (1) some people who would normally have registered in 1953 took special steps to obtain registration before the end of 1952 in order to avoid the preregistration year; and (2) the lengthening of the curriculum at certain Scottish universities has meant that fewer than usual qualified and became provisionally registered in 1953. The striking increase in the number of newly registered doctors in 1952 (4493 as against 3075 in 1951) was largely due to the addition of 1452 names to the Commonwealth List in 1952 (as compared with 471 in 1951).



Number of fully registered doctors on the Medical Register.

The Defence Services

Royal Naval Medical Service

The Medical Service of the Royal Navy affords, to medical practitioners who are attracted by the prospect of sea service and work with the Royal Navy, a wide opportunity to practise their profession in an attractive environment. A background of naval tradition naturally permeates the Royal Naval Hospitals and Naval Training Establishments, as well as Her Majesty's ships. Officers serving on the permanent list are encouraged to specialise in all branches of medicine, and they are given full facilities to obtain higher qualifications. Courses of post-graduate study are carried out not only in naval hospitals but also at civilian teaching centres. There is a wide variety of subjects comprised in the title "naval medicine," and it might often be claimed that certain of these subjects are unique. They include aviation medicine, the physiology of diving, the physical aspects of service afloat and ashore, commando service, tropical diseases, and last, but by no means least, industrial hygiene. Furthermore, a naval medical officer is no longer concerned with the care of the sailor alone, but must also have up-to-date knowledge of the diseases of women and children so that he may attend the needs of the W.R.N.S., members of the Q.A.R.N.N.S., Naval V.A.D.s, and the wives and children of Servicemen and Admiralty personnel serving abroad.

The Royal Naval Medical Service offers a life career with service on the active list up to 55 for all officers, to 57 for surgeon captains, and to 60 years of age for surgeon rear-admirals. Provision is made in the regulations for counting previous experience, both service and professional. All previous commissioned service as a medical officer in one of the Armed Forces is allowed to count in full, and all non-medical commissioned service is allowed to count as to half. Civilian hospital experience, and also experience of a special nature in private

RATES OF PAY OF MEDICAL OFFICERS IN THE ROYAL NAVAL MEDICAL SERVICE

Rank and service	Single			Married		
	Non-specialist	Junior specialist	Senior specialist	Non-specialist	Junior specialist	Senior specialist
	£	£	£	£	£	£
Acting surgeon lieutenant	584	..	..	921	..	..
Surgeon lieutenant	693	..	..	1031	..	..
After 1 year in the rank	730	..	..	1067	..	..
,, 2 years in the rank	766	..	..	1104	..	..
,, 3 ,, ,, ,, ,, ...	803	894	..	1140	1231	..
,, 4 ,, ,, ,, ,, ...	930	1022	..	1268	1359	..
,, 6 ,, ,, ,, ,, ...	985	1076	..	1323	1414	..
Surgeon lieutenant-commander ..	1204	1295	..	1542	1633	..
After 2 years in the rank	1314	1405	1533	1651	1742	1870
,, 4 ,, ,, ,, ,, ...	1423	1514	1642	1761	1852	1980
,, 6 ,, ,, ,, ,, ...	1478	1569	1697	1815	1907	2034
Surgeon commander	1551	1642	1770	1934	2025	2153
After 2 years in the rank	1660	1752	1879	2044	2135	2263
,, 4 ,, ,, ,, ,, ...	1770	1861	1989	2153	2244	2372
,, 6 ,, ,, ,, ,, ...	1825	1916	2044	2208	2299	2427
Surgeon captain	1971	1971	2080	2354	2355	2463
After 2 years in the rank	2055	2025	2135	2409	2409	2518
,, 4 ,, ,, ,, ,, ...	2080	2080	2244	2463	2463	2628
,, 6 ,, ,, ,, ,, ...	2135	2135	2244	2564	2564	2673
,, 8 ,, ,, ,, ,, ...	2244	2244	2244	2673	2673	2673
Surgeon rear-admiral	2920	2920	2920	3394	3394	3394
Surgeon vice-admiral	3650	3650	3650	4124	4124	4124

(i) The married rates shown apply to officers over 25 years of age only.

(ii) When not accommodated or messed the following additional allowances are paid to single officers:

Up to surgeon lieutenant-commander	£288
Surgeon commander and surgeon captain under 6 years	£343
Surgeon captain over 6 years	£398
Surgeon rear-admiral and surgeon vice-admiral	£453

(iii) In similar circumstances, married officers receive an additional allowance of £88 per annum.

(iv) Married officers whose families are provided with official quarters or whose families accompany them abroad, have their marriage allowance reduced by £54 per annum.

practice which is recognised by the Medical Director-General as warranting additional seniority, may be allowed to count up to a limit of seven years in all.

The additional seniority will be reckoned as service for pay and promotion but not for retired pay or gratuity. Leave is granted to officers at the following scales: in the United Kingdom, 42 days a year; when appointed to H.M. Ships on general service, at the rate of 3 days a month; when on foreign service, 14 days local leave a year with a further 2 days for each month abroad on return to the United Kingdom.

Entry in the first place is for a short-service commission of either three or four years which may be extended. During this time application may be made for transfer to the permanent list. Medical practitioners who undertake their National Service in the Royal Navy are also eligible to apply to transfer to the permanent list. The normal career for a medical officer provides for promotion to the full rank of surgeon lieutenant after one year's service, and to surgeon lieutenant-commander after a further seven years' service. Surgeon lieutenant-commanders are promoted to surgeon commander by selection at about their 15th year of total service and surgeon commanders are promoted by selection to surgeon captain about their 23rd year of total service. Subsequent promotion to surgeon rear-admiral is by selection.

Rates of pay are shown in the accompanying table. Medical officers are also eligible for *allowances*, in addition to the basic rates of pay, on the same scale and under the same conditions as for other officers of equivalent rank. These include travelling expenses, subsistence allowance, and passages for wives and families. Officers who transfer to permanent commissions after a minimum of one year's service will be paid a permanent commission grant of £1500 (taxable).

The maximum rates of *retired pay* are payable to officers who complete certain specified periods of service. In addition to retired pay, a terminal grant of three times the annual amount of retired pay is payable to officers who have completed not less than 20 years' service. The following rates are the maximum rates payable on compulsory retirement at the age-limits:

Rank	Retired at age	Maximum Pension £	Maximum Terminal grant £
Surgeon lieut.-commander ..	48	625	1875
Surgeon commander	55	800	2400
Surgeon captain (under 6 years in rank)	57	1000	3000
Surgeon captain (over 6 years in rank)	57	1150	3450
Surgeon rear-admiral	60	1400	4200
Surgeon vice-admiral	On vacating office	1600	4800

Officers allowed to withdraw, who are ineligible for retired pay, will be eligible to receive *gratuities* as follows:

After 3 years full pay (short) service	£450 (tax free)
After 4 years full pay (short) service	£600 (tax free)
After 10 years' full-pay (permanent) service ..	£1000
For each complete year in excess of 10 years	£150
Maximum total gratuity	£2350

Further information may be obtained from the Medical Department, Admiralty, Queen Anne's Mansions, St. James's Park, London, S.W.1.

ROYAL NAVAL DENTAL SERVICE

Dental officers are entered for Naval service under similar conditions to those applying to medical officers. Information concerning conditions of service can be obtained from the Medical Department of the Navy, Queen Anne's Mansions, St. James's Park, London, S.W.1.

Royal Army Medical Corps

There is, at the moment, a limited requirement for trained specialists, particularly ophthalmologists, oto-laryngologists, and radiologists. In the main, however, the R.A.M.C. seeks applications from young recently qualified practitioners.

Non-specialist Career

66% of medical officers will be employed on general-practitioner duties. After attending the junior officers' course at the Royal Army Medical College, they start their career as regimental medical officers where they become conversant with the soldier and his environment, the objects of the Army, and the requirements from its medical service in peace and war. They will, later, serve overseas where, as a regimental medical officer or in charge of a reception station or small hospital, they will be able to study the causation, prevention, and treatment of tropical diseases, the effects of climate, &c. On their return, they attend the senior officers' course; the first $2^1/_2$ months are spent in study at the Royal Army Medical College, Millbank, and the next 3 months in a special postgraduate course at a London teaching hospital. At this stage officers may opt to remain at general medical duties or take up field training or junior staff appointments. For the more senior ranks the requirements are a sound background of clinical and preventive medicine to meet their advanced responsibilities in the administration of the Army Medical Services in peace and war.

Specialist Career

Specialists are, subject to professional proficiency, employed on specialist duties up to the rank of colonel. Thereafter they may serve in this rank up to the retiring age of 57 or may be selected for promotion to brigadier either in a specialist or non-specialist capacity. The process of selection for specialist training is carried out after the junior officers' course, those applicants who are most successful in the course examination being accepted. Those accepted are provided with excellent opportunities to obtain higher qualifications and specialist experience.

Postgraduate Training

There are liberal arrangements for specialists and non-specialists to undergo postgraduate training throughout their career.

Employment after Retirement

All suitable medical officers (specialist or non-specialist) may be employed up to the age of 65 in appointments specially set aside for retired officers. Non-specialists are employed on general practitioner or medical administrative duties and specialists on specialist duties.

Conditions of Service

As conditions of service greatly affect a wife, married practitioners considering an army career are advised that their wives should discuss these conditions with army wives who have served at home and overseas.

The *overseas tour* is of 3 years' duration. Families of officers aged 25 or over can, in the case of most overseas stations, accompany the officer by sea or air. Local allowances are paid in certain overseas areas where the cost of living is greater than in the United Kingdom. Schools are normally available locally, and in the case of those with children between 11 and 18 years left in the United Kingdom a tax-free education allowance of up to £75 per year is paid if they attend boarding-school, or £26 a year if they attend day school and are placed in the care of a guardian. In addition special air flights, sometimes free and sometimes at reduced rates, are available to bring school-children to join their parents for the holidays. The facilities for sport and leave travel vary but are usually very good.

A *home tour*, spent in U.K. or North-West Europe, lasts at the moment 4–5 years. As a rule there is no difficulty in obtaining family accommodation or arranging schools. The education allowance referred to above is, however, subject to income-tax in the case of those serving in U.K., but not in North-West Europe.

It is the Army policy that all ranks should be given some months' warning of an impending move. This is done as much as possible but cannot always be achieved—for example, the posting of an officer after the senior officers' course may be influenced by his performance on the course and cannot be decided beforehand, and emergencies may necessitate a sudden chain of appointments and reliefs.

For those over 25 years of age, travel of families from duty station to duty station is, subject to certain conditions, at public expense. If serving on a commission of 3 years or over refund of furniture and removal expenses is payable and disturbance allowance of either £40 or £20, depending on the type of accommodation occupied, is issuable to cover incidental expenses for such moves, providing the period of duty at the new station is for at least 6 months. Furniture of those over 25 years of age, and serving for 3 years or more, who go overseas with their families, may, subject to certain conditions be stored at public expense. Family accommodation

provided by the government is at a reasonable rent—furnished accommodation for a major is, for example, £100 per year.

The comradeship of the Army extends to wives and children, but the wives of those interested will find out about this and the advantages and disadvantages of an army life far better from other army wives.

Conditions of Commissioning

The normal maximum age is 33 but allowance is made for those who have previously held commissioned rank in H.M. Forces on full pay. An antedate, counting towards pay and promotion may be allowed for 2 years spent in civilian practice or hospitals. An additional period of up to 5 years may be allowed for specialist appointments held. An allowance is also made for previous commissioned service on full pay. This antedate counts towards the "reckonable service" mentioned below.

Promotion and Pay

Details are given in the accompanying table. In addition the following are payable:

On appointment to a permanent commission, a taxable grant of £1500.

An initial outfit allowance (in addition to certain free issues of clothing) so that officers may provide themselves with the authorised scale of uniform without expense to themselves.

Junior specialist pay	£73 per year
Senior specialist pay	£219 per year
Qualification pay (for Staff College graduates)	£63 to £127 per year

PROMOTION AND RATES OF PAY OF R.A.M.C. MEDICAL OFFICERS

Rank	Promotion	Pay	Marriage allowance (age 25 or over)	Marriage allowance (under 25)	Ration allowance
		£	£	£	£
Lieutenant ..	—	584	337	146	88 (not taxable)
Captain ..	1 year's reckonable service	693–985	337	146	
Major	8 years' reckonable service	1204–1478	337	—	
Lieut.-colonel ..	By selection after about 17 years' service	1551–1825	383	—	
Colonel	By selection after about 23 years' service	1971–2135	383	—	
Brigadier ..	By selection	2245	428	—	
Major-general	By selection	2920	474	—	
Lieut.-general ..	By selection	3650	474	—	

The marriage allowance for officers aged 25 or over is £55 a year less when family accommodation is provided or the family accompanies the husband at an overseas station.

Retired Pay, &c.

For less than 20 years' qualifying service, there is a tax-free gratuity rising from £1000 at 10 years' service to £2800 at 19 years' service.

Pensions are payable as follows on retirement at the ages and with the reckonable service stated:

Major .. .. £625 for 22 years' reckonable service at 53 years, plus lump-sum grant of £1875.
Lieut.-colonel .. £800 for 24 years' reckonable service at 55 years, plus lump-sum grant of £2400.
Colonel .. .. £1000 for 26 years' reckonable service at 57 years, plus lump-sum grant of £3000.
Brigadier .. £1150 for 28 years' reckonable service at 59 years, plus lump-sum grant of £3450.
Major-general .. £1400 for 30 years' reckonable service at 60 years, plus lump-sum grant of £4200.
Lieut.-general .. £1600 for 30 years' reckonable service, on completion of appointment, £4800.

Deductions are made in the case of an officer whose reckonable service is less than stated above or who retired voluntarily 2 or more years before his compulsory retiring age.

Retired-officer Appointments

These may be held from the date of retirement until the age of 65. The annual salary ranks from £880 to £1107, in addition to pension.

Further information may be obtained from the Assistant Director-General, The War Office (A.M.D.2), London, S.W.1.

ROYAL ARMY DENTAL CORPS

Registered dental surgeons of British nationality or citizens of the Irish Republic who are liable for service under the National Service Act may apply for short-service commissions for not less than 3 years on the active list, with a reserve liability up to 8 years from the date of their appointment. Those (both men and women) who are not liable for service may apply for short-service commissions for varying periods of between 2 and 8 years on the active list. An antedate of seniority counting towards increments of pay and time promotion may be granted for postgraduate civil professional experience up to a maximum of 7 years in the case of recognised specialist appointments and a variable period, at the discretion of the Director Army Dental Service, for other appointments or civilian practice; previous commissioned service in the Armed Forces is also taken into consideration. A tax-free gratuity is payable (£200 after 2 years, £375 after 3 years, and £125 for each year's satisfactory completed service over 3 years). Officers or dental surgeons (male) may be appointed to permanent commissions direct or at any time during the short-service or National-Service engagement. Until further notice, those so appointed will be paid a special grant of £1250 (taxable) after one year's satisfactory service as dental officers. The period of their short-service commissions will reckon towards ultimate retired pay and service gratuity, but will not entitle them to short-service gratuities. Dental surgeons who are eligible to apply may obtain full particulars and application forms from the Under-Secretary of State, The War office (A.M.D.6), London, S.W.1.

Royal Air Force Medical Branch

The Royal Air Force offers commissions to fully registered men and women practitioners who are British subjects or citizens of the Irish Republic and are below the age of 33, although candidates above that age will be considered. Apart from the treatment of R.A.F. personnel and their families, medical practice in the Royal Air Force brings medical officers into close contact with flying and the problems of aviation medicine. Suitable male medical officers may be selected for training as pilots for duties as flying personnel medical officers. There are openings in all the main clinical specialties, aviation medicine and physiology, hygiene, and industrial medicine. Medical officers may serve at R.A.F. units of all types, including hospitals, in Great Britain, Germany, the Middle East, and the Far East.

Appointment is usually to short-service commissions in the first instance, but exceptionally suitable candidates may be granted permanent commissions on first appointment. Candidates may apply for commissions during their period of provisional registration, but will not be appointed until they are fully registered. Medical officers serving on short-service or National-Service commissions may apply at any time for appointment to permanent commissions. Short-service officers may elect to serve initially for 3, 4, or 5 years on the active list. The period originally chosen may be extended to complete any period of years up to a maximum of 8 years at the discretion of the Air Council. On completion of their active-list service on a short-service commission officers are required to serve for 4 years in the Royal Air Force Reserve of Officers. Candidates for permanent commissions must be able to complete at least the 20 years' service necessary to qualify for retired pay. Antedates, which count towards pay, seniority, and time promotion, will be granted to short-service and permanent officers for the full period of previous commissioned service on full pay as medical officer in the Armed Forces or the Indian Medical Service; for half the period of any other previous commissioned service on full pay in the Armed Forces; and, under present regulations, up to a maximum of 7 years for civil experience in recognised professional appointments after full registration, on the following basis:

(*a*) *General practice.*—Up to two years.
(*b*) *Hospital experience*
(i) First four years (less any period for which antedate is given under (*a*) above).—In full.
(ii) Any later experience other than in a specialist post.—Half.
(iii) Experience in a recognised specialist post.—In full.

Officers will normally be commissioned in the rank of flying-officer with promotion to flight-lieutenant after

RATES OF PAY OF NON-SPECIALIST MEDICAL OFFICERS IN THE ROYAL AIR FORCE MEDICAL BRANCH

Rank	Total annual income	
	Single	Married
	£	£
Flying-officer	873	1010
Flight-lieutenant after 2 years	982	1119
Flight-lieutenant	1055	1192
Squadron-leader	1493	1630
Wing-commander	1895	2022
Group-captain	2315	2442
Air commodore	2642	2761
Air vice-marshal	3373	3483
Air marshal	4103	4213

(*a*) The rates shown include the minimum rates of basic pay for each rank. Increments of pay are given in the ranks of flight-lieutenant to group-captain inclusive, normally at two-year intervals.
(*b*) The total income is based on the assumption that:
(i) Single officers are not accommodated in a military mess, nor receiving rations in kind.
(ii) Married officers are not accommodated in Government quarters or Government hired accommodation, are over 25 years of age, and are not receiving rations in kind. (The marriage allowance for short-service and permanent-commission officers under 25 is 56*s*. per week.)
(*c*) If accommodated in a military officers' mess, single officers receive accommodation and rations in kind, but their annual total cash income is reduced by £289 up to squadron-leader, by £398 for air commodore, and by £453 for air vice-marshal and air marshal.
(*d*) Specialists in the R.A.F. are granted antedates of seniority which count toward promotion and increments of pay.

one year's reckonable service. Promotion to squadron-leader is after 8 years' total reckonable service, and promotion to wing-commander and the ranks above is by selection. Medical officers whose reckonable service on entry is one year or more, will be promoted to the appropriate higher rank with retrospective effect to the date of commissioning, immediately they complete the short introductory course which follows appointment to a commission. Rates of pay for non-specialist medical officers are shown in the accompanying table. Officers selected for R.A.F. specialist appointments will, under present regulations, be granted an additional antedate of 2 years in the rank of flight-lieutenant or squadron-leader, and, if subsequently promoted to wing-commander, a further year. A tax-free gratuity, at the rate of £200 a year for each year of satisfactory active-list service, is payable to short-service officers on transfer to the reserve. Arrangements exist to preserve their rights under the National Health Service (Superannuation) Regulations, 1950. Until further notice, a grant of £1500, subject to income-tax, will be made after one year's satisfactory commissioned service in the medical branch to officers appointed to a permanent commission. A permanent commission earns retired pay and other benefits after completion of service. Permanent officers may be allowed up to one year's study leave, on full pay and allowances, to take approved postgraduate courses, and there are arrangements for specialist and non-specialist officers to attend periodical refresher courses. They can have a full career as clinical specialists and may earn accelerated promotion for professional or scientific distinction. Moreover, medical officers serving in non-specialist appointments but having experience or aptitude in a clinical specialty may be given the opportunity of employment in the specialty with the object of qualifying as R.A.F. specialists. Further information may be obtained from the Under-Secretary of State, Air Ministry, M.A.1(P), 2–8 Richmond Terrace, Whitehall, S.W.1 (Trafalgar 8811, ext. 6674).

ROYAL AIR FORCE DENTAL BRANCH

Commissions are available in the Royal Air Force Dental Branch to candidates of either sex who possess a degree or licence in dental surgery of a British university or licensing board, and who are registered under the Dental Act in force in the United Kingdom. Dental officers in the Royal Air Force have plenty of scope for all the aspects of dentistry in a branch which trains its own technicians and maintains its own laboratories under senior dental officers. Dental officers serving on short-service or National-Service commissions may apply at any time for appointment to permanent commissions. The length of the period on a short-service commission and the period required in the reserve on its completion is the same as for medical officers. Similarly, dental surgeons may be granted permanent commissions if they can complete at least 20 years' service qualifying for retired pay. Previous commissioned service counts for antedate of seniority rank on appointment, and terms of promotion the same as for medical officers, while antedates for civil experience in a recognised professional appointment are given on the following basis, subject to a maximum antedate of 7 years for such experience: first 4 years, in full; any later experience, in half. Candidates who hold specialist appointments may be allowed to have their civil experience assessed on a different basis, but within the same maximum of 7 years. A tax-free gratuity, at the rate of £170 a year for each year of satisfactory active-list service, is payable to short-service officers on transfer to the reserve. Dental officers appointed to permanent commissions are encouraged to pursue their studies in postgraduate research and may be allowed up to seven months' study leave on full pay and allowances to take approved postgraduate courses. Until further notice, a grant of £1250, subject to income-tax, will be made after one year's satisfactory commissioned service in the dental branch, to officers appointed to permanent commissions. Short-service or permanent-commission officers who have the appropriate higher qualifications and the requisite experience may be recommended for specialist appointments, which also attract the additional antedates given to specialist medical officers. Further information may be had from the Under-Secretary of State, Air Ministry, M.A. 6, 2–8, Richmond Terrace, Whitehall, S.W.1 (Trafalgar 8811, ext. 6669).

Health Services at Home

PUBLIC HEALTH

THIS year the public-health services are celebrating the centenary of the foundation of the Society of Medical Officers of Health. Today, after over a hundred years of evolution, public health ranks next in size and importance to the general-practitioner and hospital services and offers a satisfying career to the young doctor who is keen to work for the welfare of the community as well as for the individual.

Part III of the National Health Service Act of 1947 enlarged the scope of the personal health services. Under this Act the councils of counties and county boroughs were designated "local health authorities," and it was made their duty to provide clinics and other services for mothers and children, domiciliary midwifery, health-visiting, home-nursing, immunisation and vaccination, ambulances, and domestic-help services. Most of these services have grown rapidly, particularly the ambulance, home-nursing, and domestic-help services, and their importance to the community is great. The Act gave these authorities wide powers to start schemes for the prevention of disease and the care and after-care of sick persons. The responsibility for the administration of all these services falls on the medical officer of health; in most counties and county boroughs he is also the principal school medical officer and is thus able to coördinate the preventive health services to cover children of all ages. In some areas further coördination has been secured by placing the authority's social welfare services also under the medical officer of health.

In environmental hygiene the duties of the medical officer of health are comparatively unchanged. These are the oldest of his responsibilities, but in contrast to the early days, when the medical officer of health was personally concerned with the execution of many sanitary duties, health departments are now organised to free him from much of the detailed work, which is performed by trained lay officers, or even transferred to the care of other departments, as in the case of water-supply and sewage disposal. Naturally, the extent of this devolution of responsibility varies widely, and in rural areas problems of water-supply and sanitation are still a major concern of the medical officer of health. The supervision of housing conditions is also a responsibility of the health department. All this work remains under the general control of the medical officer of health, and he must supervise the purity of water-supplies even though their production is not his concern. Though less concerned with detailed work, supervision must be far wider than that exercised by his predecessor of a hundred years ago.

Control of infection has always been one of the principal functions of the medical officer of health. Bacteriologists have made great advances in the identification of different strains within certain pathogenic species, and these new techniques applied to epidemic control have given him an instrument of precision in much of his epidemiological work. The application of specific prophylactic measures against various acute infections is now an important function of all health departments. Drastic reduction, if not the complete extinction, of certain infectious diseases has become a feasible target for all health departments.

Recent developments have increased the opportunities for the young medical officer to obtain a comprehensive training in public health. Additional posts of senior medical officer grade have been created in many of the larger towns, and in counties schemes of divisional administration have been evolved. The work of the medical officer of health to a number of county district authorities is often combined with an appointment as assistant or divisional county medical officer of health. The holder of such a post obtains a detailed knowledge of the community under his care, and, while retaining a high degree of individual responsibility, he suffers none of the disadvantages of rural isolation.

A sound clinical background is an essential qualification for the new entrant and a course leading to the diploma in public health should be taken at an early stage since this qualification is necessary for anyone seeking an appointment as a medical officer of health. For doctors engaged in clinical preventive medicine a diploma in child health or in obstetrics and gynæcology is an advantage.

Individual progress in a public-health career depends largely, if not entirely, upon the doctor's personal qualities; for, as adviser to his authority, the reputation of the medical officer of health depends on the soundness of the advice he gives. Quite apart from his statutory functions, he has an important part to play in promoting the health education of the community, and in helping to secure full coördination between the branches of the health service in his area. He is assisted by the regular liaison meetings, which are held in most regions, between the hospital boards and the county and county-borough medical officers of health. Most hospital boards rely on the medical officer of health to determine the urgency of the social grounds for admitting patients to hospital, especially in maternity cases and when considering the chronic sick. Many medical officers of health have been appointed as members of hospital medical advisory committees or of hospital management committees; and, through the National Health Service Act, a closer relationship with the general-practitioner services has now become possible.

INDUSTRIAL MEDICAL SERVICES

INDUSTRIAL or occupational medicine is gradually taking its proper place among the branches of medicine. Whatever may be the merits or demerits of a classical education, it is certain that the social stigma placed by the ancient Greeks on the mechanical arts and trades led to the neglect of the working man in ancient medical practice and of the occupational diseases by medical science. Even now the influence of the classics on this aspect of medicine has not been entirely dissipated, and it is a rare physician who goes fully into the details of his patient's occupation and tries to estimate its effect on his health. This is surprising because there is no study more fascinating than that of the physical and mental reaction of man to his environment. Industrial medicine has both preventive and curative aspects but it is generally regarded as a branch of preventive medicine, and of public health in its wider sense, or even of the loosely defined concept of social medicine.

In November, 1954, the Minister of Labour and National Service announced in the House of Commons that he had decided to take steps to stimulate the further development of industrial health services in work-places covered by the Factories Acts. He later set up a standing industrial health advisory committee to carry out a review to ascertain where industrial health services most needed to be extended. Two pilot surveys are now in progress, one in Halifax and the other in Stoke-on-Trent, but up to the present time no results have been announced.

It is to be hoped that the deliberations of the industrial-health advisory committee will lead to the creation of more posts for doctors interested in occupational medicine. These posts fall into various categories, such as those in the Civil Service, the nationalised industries, research organisations, the universities, and factories. But, though the importance and opportunities of industrial medicine are increasingly recognised, it cannot yet be said that in salary or prospects the openings in this work are always as favourable as those in the National Health Service. For industrial posts within the Civil Service, the prospects have improved slightly as a result of the Royal Commission on the Civil Service, but even at present this service does not offer enough senior appointments to assure promotion to all who earn it. Moreover, as things are at present, the top posts in the medical Civil Service are often filled by doctors who previously held appointments outside the service, and this is a discouragement to those who are contemplating entry through the basic grade.

The appointments as medical officers to factories and other industrial organisations vary in attractiveness, both as regards opportunities and salaries. In some the conditions and prospects are good, and the British Medical Association has laid down a scale of minimum salaries.

The main Government department supervising the health of industrial workers is the Factory Department of the Ministry of Labour and National Service. This department, which up to 1940 worked under the Home Office, dates from 1833 and administers the Factories Acts (1937 and 1948) with regulations on accident and sickness prevention, hours of work, amenities, and canteens. The inspectorate numbers about 412, of whom 18 are doctors. Members of the department, whether lay or medical, take part in the activities directed towards the prevention of illness and maintaining the health of the factory population. The medical inspectors are stationed in London, Birmingham, Sheffield, Liverpool, Cardiff, Bristol, Manchester, Glasgow, Leeds, and Wolverhampton; and from these centres they are able to deal with factory health and conditions in any part of the country. Under them 1750 general practitioners give part-time service as appointed factory doctors (previously called examining surgeons), examining all young entrants into industry, and periodically all those engaged in specific dangerous processes. In addition there are about 400 doctors employed whole-time in factories or groups of factories, and about 3000 (maybe more) in part-time work. An interesting development in recent years has been the setting-up of medical services for looking after workers on trading estates. Three such schemes, at Slough, Hillington, and Bridgend are well established and others are projected to serve the trading estates at some of the "new towns." One such service is now in operation at Harlow in Essex. It has been a common criticism of the industrial medical services that the workers at small factories are not catered for, and these group services might well form a model for a national service. It is well to bear in mind, however, that even in factories where there are no doctors a close watch on conditions is maintained by the factory department.

Apart from the factory department, other government departments deal with various aspects of the industrial medical services. For instance, the Post Office, which employs more workers than any other department, has had a medical service since 1855; and since it deals with engineering and manual workers in addition to office staffs, it is partly an industrial medical service. The Post Office medical staff is now directed by the chief medical adviser to the Treasury, who has in addition a staff of 15 doctors which deals with the health problems of the Civil Service. The Inspectorate of the Ministry of Fuel and Power has a medical section with a few full-time medical inspectors. The National Coal Board provides a comprehensive industrial medical service for the industry which now has a large staff of whole-time doctors. The Ministry of Supply Medical Service with 40 doctors, deals with the health of the workers in the Royal ordnance factories, and in the research stations. The

Ministry of Pensions and National Insurance has a medical staff both at headquarters and in the regions, which advises on compensation for industrial injuries as well as for other causes of ill health. The former silicosis and asbestosis board is now a part of the medical service of the Ministry. On the staff of the pneumoconiosis medical panels, as they are now called, are some 30 whole-time medical officers who deal with the diagnosis and certification for compensation of cases of silicosis, asbestosis, and some other forms of pneumoconiosis. They also carry out periodical medical examinations of workers engaged in some scheduled occupations in which cases of pneumoconiosis are likely to arise. The centres from which the panels work are Swansea, Cardiff, London, Manchester, Sheffield, Bristol, and Edinburgh. Some of the newly nationalised industries have established medical services—for example, the London Transport Executive, a part of the British Transport Commission. The London Transport Executive employs a chief medical officer with 9 full-time doctors. The National Dock Labour Board also has a medical service consisting of 7 full-time medical officers and 1 part-time medical officer. Some, but not all, of the regional boards of the nationalised gas industry have appointed whole-time and part-time doctors to look after the health of the workers. A move is on foot to set up medical services in all regions, and during the past year several new appointments have been made.

In addition to investigations and research into industrial diseases conducted by medical inspectors of factories, mines medical officers, and works doctors, much fundamental research into environmental conditions has been carried out by the staff and various committees of the Medical Research Council. Clinical and field studies made under the ægis of the council's industrial pulmonary diseases committee include inquiry into the pneumoconiosis of coalminers and the byssinosis of cotton workers. The London Hospital department for research in industrial medicine was established in 1943, and a few years later, in conjunction with the Ministry of Fuel and Power, a bureau for research into the pneumoconiosis of South Wales coalminers was set up at Cardiff. Other units of the council dealing with industrial health include the toxicological research unit at Porton, the groups for research in industrial physiology and psychology in Manchester, Cambridge, and London, and the industrial medicine research unit at the Birmingham Accident Hospital. There is also a unit for research on climate and working efficiency at the department of human anatomy at Oxford, a social medical research unit at the Central Middlesex Hospital, and a statistical research unit at the London School of Hygiene and Tropical Medicine. Problems on the health aspects of atomic energy are being dealt with at Harwell. Research into industrial health matters is also being undertaken by the university departments mentioned below. The Institute of Social Medicine at Oxford, which works under a joint board, also undertakes investigations into various aspects of industrial health. University chairs devoted to industrial or occupational medicine have been set up at Manchester and Durham. The chair of social medicine at Birmingham includes industrial medicine within its terms of reference, and the University of Sheffield has appointed a professor of social and industrial medicine. Students are likely to hear more about these subjects in their undergraduate courses. Postgraduate courses are held in London, Birmingham, Sheffield, and Manchester, and occasionally at other centres. Diplomas in Industrial Health (D.I.H.) have been instituted by the Society of Apothecaries, the Conjoint Board of the Royal Colleges of Physicians and Surgeons, and the Faculty of Physicians and Surgeons of Glasgow. The Association of Industrial Medical Officers was formed some years ago by doctors interested in industrial health, and branches have been established in various parts of the country; the *British Journal of Industrial Medicine* is sponsored by this association in conjunction with the British Medical Association. The association has also since April, 1951, published a quarterly journal, called the *Transactions of the Association of Industrial Medical Officers*, which is devoted to the dissemination of information about the practical aspects of industrial medicine rather than to original research.

PRISONS AND BORSTAL INSTITUTIONS

THE medical service is a part of the general service class of the medical Civil Service. It is under the immediate control of the Director of Prison Medical Services at the Prison Commission. The service comprises principal medical officers, senior medical officers, medical officers, and part-time medical officers. Whole-time medical officers are appointed to the larger prisons and Borstals, and at the most important establishments there are senior medical officers, assisted by one or more medical officers and psychologists. The senior medical officers also have advisory and other duties in connection with small groups of establishments. The medical officer is also required to pay attention to sanitation and the general hygiene of the prison and to keep a close watch on food and nutrition. The making of psychiatric assessments, the provision of medical and psychiatric reports, and the giving of evidence in court when called upon are important aspects of the work. Surgical and psychotherapeutic units are established at selected centres. Candidates must be fully qualified and registered and should possess a sound knowledge of medical and surgical practice; preference is given to those who, in addition, have had postgraduate experience in psychological medicine.

Salaries are in accordance with the general Civil Service scales:

Medical officer* £1650 × £75–£1950 × £100–£2250.
Senior medical officer £2600.
* Linked to age 35, minus £50 for each year below that age; and plus one increment for each year above that age but not exceeding age 40.

The appointments are pensionable. Unfurnished quarters, when available, are provided at a moderate rental. Appointments are made by the Civil Service Commission, 6, Burlington Gardens, London, W.1, to whom all inquiries should be addressed.

At the smaller prisons and Borstals no whole-time medical officers are employed; local practitioners are usually appointed as part-time officers. Further particulars of these appointments can be obtained from the Prison Commissioners, Horseferry House, Dean Ryle Street, London, S.W.1. Revised scales of salary for part-time medical officers have been agreed with the British Medical Association.

Services Abroad

HER MAJESTY'S OVERSEA SERVICE

VACANCIES for medical officers occur in nearly all Colonial Territories, the greatest number being in tropical Africa (e.g., Nigeria, Kenya, Uganda, Tanganyika, &c.). Candidates who wish to make their career in those territories may become members of the medical branch of H.M. Oversea Civil Service, and in that case the assurance given by the Secretary of State in Parliament about conditions of service and pension rights will apply, should the territory in which the officer is serving attain self-government.[1] Candidates must ordinarily be British subjects holding medical qualifications registrable in the United Kingdom and have completed their preregistration year. They must normally be under 40 or 45 years of age, according to the age of retirement in the territory to which they are appointed. In West Africa this is 50 years, and in most other territories 55. In many territories officers may serve beyond the age of retirement with the Governor's permission. Contract appointments for short terms are available for candidates who are above the age-limits or who, while being within these limits, do not wish to commit themselves to a colonial career at the outset. Doctors in the National Health Service may also avail themselves of a scheme which has been brought into operation in many colonial territories whereby they take up appointments up to six years without loss of pension rights in the National Health Service. The scheme provides for the payment of a gratuity on leaving the service, but those who are eligible and who wish to transfer to the permanent and pensionable establishment of a Colonial Medical Department will have opportunities to do so. The service

1. Colonial no. 306 of 1954. H.M. Stationery Office.

offers special opportunities and experience not obtainable at home, and that experience will be of great value to doctors both in practices and in hospital appointments if they elect to return to this country. Officers appointed to the permanent service are normally required to take a course in tropical medicine and hygiene either before going overseas or during their first leave.

Medical officers are usually appointed in the first instance for general duties, which require all-round ability and a balanced outlook upon both preventive and curative medicine. Such duties often imply the charge of a district hospital and responsibility for the medical administration of a district, although many officers are employed on clinical duties in the large hospitals. Some posts are concerned purely with public-health work and for these the possession of a D.P.H. or special experience in preventive medicine is necessary. In the general field there are ample opportunities for original investigation, and subsequent specialisation is encouraged. Opportunities are offered wherever possible for officers to study for postgraduate qualifications in approved branches of medicine, surgery, or public health.

A large number of specialist appointments exist which are normally filled from within the service by officers with the necessary aptitude and qualifications. For these appointments a very high standard of professional attainment is required. Senior administrative appointments are also almost invariably filled by the promotion of serving officers. Promotion takes place in the administrative or specialist branches either in the territory where the officer is serving or on transfer to another. The scope for promotion is therefore considerable. An officer need not transfer if he does not wish to. The total of the establishments of the various government medical departments amounts to some 800 European medical officers and an even greater number of officers appointed locally.

Officers possessing qualifications or experience in pathology would be considered for appointment to the laboratory establishments. Workers in the laboratories carry out pathological and biochemical examinations for clinical, forensic, and public-health purposes. In this branch has been carried out a great deal of the research work which has led to important advances in the knowledge of tropical medicine and local health problems. Vacancies exist from time to time for women doctors, especially for those with special experience in obstetrics, school health, child welfare, and nutrition, although their employment is not necessarily confined to these subjects.

Naturally in tropical and subtropical countries diseases peculiar to hot climates predominate in the general pattern of morbidity; but the whole gamut of pathological conditions found in temperate climates occurs in the tropics, and doctors in the service are expected to keep abreast of the trend of modern medical opinion in Britain.

Of late years progress in the control of tropical diseases has been so rapid that Europeans can now live in comfort and in hygienic surroundings in areas which two decades ago were notoriously unhealthy. There is still, however, a great deal to be done; and with the expansion of medical services to raise health standards in all colonies, the service offers special opportunities and ample scope for initiative and original observation in clinical subjects, preventive medicine, and research. Full particulars of terms and conditions of service may be obtained from the Director of Recruitment, Colonial Office, Sanctuary Buildings, Great Smith Street, London, S.W.1.

FEDERATION OF RHODESIA AND NYASALAND

THE Federal government administers the health services of Southern Rhodesia, Northern Rhodesia, and Nyasaland. The rates of pay for full-time officers are:

	£
Secretary for Health (1)	3250
Directors of medical services (3)	2850
Deputy directors of medical services (3)	2650
Directors, public-health laboratories (2)	2550
Ophthalmologists (3)	2550
Medical superintendents (4)	2550
Senior medical officers (9)	2550
Pathologists (2)	2550
Radiologists (3)	2550
Specialists (surgery, medicine, psychiatry, leprology, venereal disease and tuberculosis (10)	2550
Provincial medical officers of health (4)	2550
Medical superintendents (8)	2250
Radiologists (3)	2250
Pathologists (2)	2250
Medical superintendents (5)	1875–2000
Medical officers of health (6)	1650–2000
Government medical officers (133)	1200–1800

Government medical officers are permitted private general practice in the rural areas; the value of this varies considerably and may reach £1000 a year, but where the net receipts fall below £200 a year a payment is made to bring the total receipts to that figure. In other areas no private practice is allowed and an allowance of £200 a year is paid in lieu. Medical superintendents and specialist officers are allowed consultant practice, the cash value of which is not great.

The duties of government medical officers include the supervision of general and special hospitals, African clinics, health units and dispensaries, and attendance on police and certain other officers of the Federal and Territorial governments who are entitled to free medical attention, boarders in government schools, and prisoners.

Vacancies are normally advertised but, where possible, the more senior posts are filled by promotion within the service. Further details may be obtained from the Secretary to the High Commissioner for Rhodesia and Nyasaland, 429, Strand, London, W.C.2.

MEDICAL MISSIONARY SERVICE

CHRISTIAN medical men and women who wish to offer their services where the need is greatest will find opportunities in medical missionary work. There are university medical schools, central and rural hospitals, and many opportunities for public-health work and research. Christian missions played a major part in giving China a modern medical profession. In India and Pakistan they have helped to maintain high ethical and professional standards, and have specialised in nursing and medical education. In Africa and other of the less-developed regions they have pioneered rural health services and the training of subordinate staff. In many parts of the world the work is becoming integrated with the government services though still maintaining its identity. For undergraduates pledged to this service there are hostels in London and Edinburgh. After qualification, a period of eighteen months or two years in resident appointments is advised for all and also special diplomas or higher degrees for some. Under certain circumstances exemption is given from national service. Special missionary training is required by some societies. Service is for terms of from eighteen months to five years, according to the country and climate; there are opportunities for postgraduate study during furloughs. Offers for life service are preferred, but short terms are considered. Financial rewards are not high but vary with need. Passages are free and quarters provided. For long-term service many societies have pension provision. Help is given with children's educational costs. Applications from students or qualified men and women should be made either to the secretary of one of the denominational or interdenominational missionary societies, or through the local branch of the Student Christian Movement or the Intervarsity Fellowship, or to the Chairman, Medical Advisory Board of the Conference of British Missionary Societies, Edinburgh House, 2, Eaton Gate, London, S.W.1.

THE MEDICAL RESEARCH COUNCIL

THE Medical Research Council, originally established in 1913 as the Medical Research Committee, is appointed to administer the funds provided annually by Parliament for the promotion of research in medical science. The council is under the general direction of a committee of Privy Council, consisting of the Lord President as chairman and the Ministers in charge of the principal departments concerned with questions of public health at home and overseas. The Lord President is the Minister responsible to Parliament for the council's work. The members of the council, appointed by the committee of Privy Council normally for a period of four years, are 12 in number. 9 of these are chosen for their scientific qualifications; of the remaining 3, 1 must be a member of the House of Lords and 1 a member of the House of Commons.

Although its funds are largely provided out of the Parliamentary grant-in-aid, the council is not a Govern-

ment department and its staff are not Civil Servants; its constitution gives it full liberty to pursue an independent policy, and enables it to foster effective relations between science and the State, unrestricted by territorial or departmental limitations of function. The council maintains close touch with the Government departments having responsibilities for public health, collaborates freely with its sister research organisations, the Department of Scientific and Industrial Research and the Agricultural Research Council, and has direct relations with similar organisations abroad.

The council supports research in two main ways: by employing its own scientific staff and by a scheme of grants and training awards which it makes available to workers elsewhere for specific purposes. The council's annual report, published by H.M. Stationery Office, gives an account of the work in progress under its auspices. (See below for details of other publications by the council.)

The council's scientific staff, with technical and other assistants, works in one major institute—the National Institute for Medical Research, Mill Hill, London, N.W.7—and in over fifty research units or groups of varying size, or in some cases as individually attached workers, in universities and hospitals mainly in the United Kingdom but also in certain colonial territories. The council also provides the major portion of the finance of the Institute of Cancer Research in the Royal Marsden Hospital, London, S.W.3.

The work of the National Institute for Medical Research, which is the largest of its kind in the Commonwealth, is designed to cover as wide a field as possible in basic non-clinical medical research; it has separate divisions of biochemistry, organic chemistry, physical chemistry, chemotherapy, bacterial physiology, physiology and pharmacology, human physiology, experimental biology, bacteriology and virus research, biophysics and optics, and biological standards. The council's research units and groups are housed, by mutual agreement, mainly within university or hospital departments. Their interests cover the whole range of medical research from fundamental laboratory subjects, such as biophysics and toxicology, to various aspects of clinical research and social and tropical medicine.

The close association of most of the council's establishments with universities and hospitals is valuable from many points of view, and especially in the opportunities it provides not only for collaboration in joint schemes of research but also for informal day-to-day discussions on scientific problems of common interest. Members of units and of the external staff accommodated in university departments are often given honorary university appointments and participate to a limited extent in teaching, while in appropriate cases members of clinical units hold honorary hospital appointments. In accordance with the recommendations, in the *Report on Clinical Research in Relation to the National Health Service*,[1] arrangements have been made by the council, in consultation with the Health Departments and with the advice of the Clinical Research Board, for the further development of research in this field.

The interests of the council and of the universities are necessarily closely aligned in the research field but they do not merely duplicate each other. The work of the council is complementary to that of the universities and under the terms of its constitution it is particularly well placed to explore new fields as they come to light and to develop new subjects rapidly on a large scale.

The council's aim is to provide the opportunity for careers equivalent to those offered in the universities to men and women of equal ability and experience. Its salary scales are based on this principle and approximate closely to the various grades of university appointments, the director of a council unit normally being considered to be of professorial status. For the most part salaries are not fixed in relation to particular posts, but rather with reference to the ability and responsibilities of the individual: promotion to a higher grade may accordingly be made without change of post. The council's staff number about 1700, of whom some 500 are scientific and about half of these medically qualified.

Appointments to the scientific staff are made on the recommendations of the director of the establishment concerned, normally for three or five years in the first instance. Later, when an adequate degree of seniority has been attained, the council may express its intention of continuing employment until the normal retiring age of 60, with the possibility of extension to 65. Superannuation provision—normally under the Federated Superannuation System for Universities—is made for most appointments.

1. H.M. Stationery Office, 1953.

PUBLIC HEALTH LABORATORY SERVICE

On behalf of the Ministry of Health, the council have administered the Public Health Laboratory Service since 1939 when it was originally set up as an emergency service. There are over 60 separate laboratories in England and Wales. In addition to their routine duties, members of the staff of the service, whose salary scales are normally equated with those of the National Health Service, undertake research in bacteriology and epidemiology. The service also maintains a number of special laboratories which act as reference centres for particular infections, and are engaged largely in research.

The following booklets covering various aspects of the council's activities are available on request to the Secretary, Medical Research Council, 38, Old Queen Street, Westminster, London, S.W.1: Constitution and Functions; Careers in Medical Research; Conditions Applicable to Research Grants.

MEDICAL PRACTICES ADVISORY BUREAU

WHEN the National Health Service Act came into force, the traditional procedure for entry into general practice was considerably modified—particularly by the abolition of the sale and purchase of goodwill. It soon became apparent that there would be a need for some central source of information which could give advice to practitioners seeking openings, to those desiring to transfer from one area to another, and to those seeking to set up in single-handed practice. It was felt that advisory functions of this kind should be undertaken by a body which was not linked directly or indirectly with central or local government but whose status and resources were such as would enable it to establish and maintain effective liaison with executive councils, local medical committees, and the Medical Practices Committee, and at the same time to command the confidence of the profession. To meet this need the Medical Practices Advisory Bureau was established at the end of 1948 as a department of the British Medical Association, under the direction of a member of the medical staff of the association.

The functions of the bureau are twofold: firstly, to maintain an information service about openings in the various fields of medical practice and to introduce partners, assistants, and locums; and, secondly, to advise on individual and personal problems associated with entry into and the conduct of medical practice. A great deal of advice is sought on the various forms of contracts and agreements between practitioners. Although it is not the function of the bureau to give legal advice, there are many questions concerning partnerships and assistantships where the advice of a doctor with experience is needed, as well as that of a lawyer. All doctors are welcome to seek the advice of the Bureau, at B.M.A. House, Tavistock Square, London, W.C.1, or any of its branch offices. Those who are not members of the B.M.A. are required to pay nominal charges for the agency services.

THE BRITISH MEDICAL STUDENTS' ASSOCIATION

THIS association was founded in 1942 and its membership now includes over 90% of the medical students in the country. It is purely a professional organisation, providing a means of communication between medical students in the different universities and hospitals and also between British students and those in other countries. It presents the medical students' viewpoint to the medical profession, to Government departments, and to other interested bodies. The organisation of the association depends on an annual general meeting, at which an executive committee is elected, and on four regional councils. Both clinical and preclinical conferences and "schools" are arranged from time to time and these are valued not only for their academic interest but also for the opportunities they provide for meeting

students from other medical schools. Local activities of the constituent organisations of the association include lectures, visits, discussions, and the showing of films from the B.M.A. and other film libraries. Amongst its publications are the *British Medical Students' Journal*, which appears once a term, the B.M.S.A. Diary, and an annual list of vacation appointments for those members requiring work in hospitals during vacations.

The B.M.S.A. is keenly interested in the grants problems of its members and cases of hardship are investigated. The association is hopeful that all local education authorities will respond to the encouragement given by the Minister of Education, who urged that maintenance allowances be raised to the level of those granted by the Ministry of Education. There has been wide divergence in the amounts paid by different local authorities to students whose needs are similar. Some authorities do not yet pay an extra maintenance allowance to clinical students to cover all the extra time they necessarily spend at hospital over and above the length of the academic year.

The association is represented on the medical students and newly qualified practitioners subcommittee of the B.M.A. and on the undergraduate education committees of the College of General Practitioners. It maintains its close interest in the British Student Tuberculosis Foundation, of which it is a sponsoring body, and is a foundation member of the United Kingdom committee of the World Health Organisation.

In the field of sickness and other insurance the association has made arrangements with an insurance agency, set up by the medical profession for its own guidance, for the development of a special section to advise medical students.

The B.M.S.A. is a founder member of the International Federation of Medical Student Associations (I.F.M.S.A.), whose membership now embraces the associations of 18 nations, and the B.M.S.A. is this year vice-chairman nation. The I.F.M.S.A. continues to develop successfully and is recognised by the World Medical Association and UNESCO. Under the auspices of I.F.M.S.A. the annual Students' International Clinical Conference was held this year in France, while other courses, both clinical and preclinical, have been held in Yugoslavia and Denmark. There are also opportunities for individual clerkships in hospitals abroad, and the B.M.S.A., through the offices of a student international secretary, does much to assist British students to take advantage of these and other opportunities to travel and see something of medicine in other countries. Similarly the B.M.S.A. makes arrangements for many foreign students to visit hospitals in this country and the number of applications increases yearly, but unfortunately the number of places available does not. To encourage and assist deserving British students to attend courses and hospitals abroad, the B.M.S.A. established two years ago a student travel fund. This year the administrators of the fund awarded thirteen scholarships to the total value of £100. It is hoped to improve further on this figure in future years. The B.M.S.A. is greatly indebted to the generous donors without whose gifts the international activities of the association would not be possible.

The chief activities of the association during the current year have been a report on the 1st M.B. course which is being submitted, with recommendations, to the General Medical Council, a symposium on medical education held in London, a follow-up survey to determine the success of the General Practitioner attachment scheme in schools, and, in conjunction with the British Dental Students' Association, an investigation and Report on the instruction given in dental anæsthesia to medical students. The national clinical summer school, together with a preclinical summer school, will be held in London in September, and during the same month there will also be a clinical summer school in Glasgow.

The B.M.S.A. is fortunate to have as its honorary president this year, Prof. Robert Walmsley, F.R.C.S.E., professor of anatomy in the University of St. Andrews. The annual general meeting this year will be held in Belfast on Nov. 2–4, and it is hoped that all member schools will send full delegations. Observers from the non-member schools will be very welcome. During the meeting one half-day will be set aside for discussion on the Aims of Medical Education.

The address of the association is B.M.A. House, Tavistock Square, London, W.C.1.

EMPIRE MEDICAL ADVISORY BUREAU

THE British Medical Association set up the Empire Medical Advisory Bureau with a view to making the stay of overseas medical visitors to this country as profitable and pleasant as possible, by welcoming them and providing a personal advisory service. The bureau, which is at B.M.A. House, Tavistock Square, London, W.C.1, caters for Dominion and Colonial medical men and women who are staying in this country for postgraduate education or other purposes. Information is obtainable about postgraduate education and courses of study for higher qualifications; and inquirers can be put in touch with the organisations and authorities providing postgraduate education. The visitor who wishes to see something of the latest medical work in his own specialty can be put in touch with the appropriate experts.

A register of suitable hotels and lodgings is maintained by the bureau, and every effort is made to help visitors to solve the problem of finding somewhere to live. By social functions and in other ways doctors from the Dominions and Colonies are enabled to meet each other and prominent members of the profession in this country. General information about travel, sports facilities, exhibitions, theatres, &c., may also be had. The bureau can be of greatest service to the visitor if he writes as long as possible in advance of arrival, giving information on the following lines: projected date of arrival, mode of travel, whether accompanied by wife, period of stay, objects of the visit, and in what ways assistance is desired. On arrival a letter of introduction from the local hon. secretary of the visitors' medical association, although not essential, would be welcome. The medical director of the bureau is Brigadier H. A. Sandiford, to whom all communications should be addressed.

INTERNATIONAL MEDICAL VISITORS BUREAU

To further coöperation with fellow member associations of the World Medical Association, the British Medical Association has set up the International Medical Visitors Bureau to provide a personal advisory service to doctors visiting the United Kingdom from countries outside the British Commonwealth. The bureau, which is at B.M.A. House, Tavistock Square, London, W.C.1, offers information on postgraduate education facilities, while visits to hospitals and clinics can be arranged and help given in finding accommodation. General information on travel, car hire, theatres, and exhibitions is also available. The medical director is Brigadier H. A. Sandiford, to whom all communications should be addressed.

THE MEDICAL WOMEN'S FEDERATION

ALL medical women on the British Medical Register are eligible as members of the Medical Women's Federation, which has active local associations all over the country and in Northern Ireland, as well as a large London association and an overseas association linking up members all over the world. The federation is non-political. It provides medical and social meetings for its members and publishes a quarterly journal reviewing subjects of special interest to women doctors. These naturally cover a wide tract of social medicine, including maternity and child welfare, women in industry, the care of children and of difficult and delinquent children, the management of nursery schools and day-nurseries, women in prisons, children in approved schools and remand homes, the illegitimate child, and many related subjects. Advances in obstetrics and gynæcology, and psychological studies of women and children are naturally of special interest to women doctors; recent work in these branches of medicine is reviewed in the journal. From time to time the federation undertakes social studies and publishes the results. It is also able to protect the interests of its members by presenting arguments in any cases where there has been discrimination against women doctors. The federation's headquarters are at Tavistock House North, Tavistock Square, London, W.C.1.

Notes and News

UNIVERSITIES AND PARLIAMENT

IN telling visitors about British institutions, one cannot deny occasional imperfection. But embarrassment happily vanishes as one turns to our method of giving the universities Exchequer support through the University Grants Committee. "Sooner or later," we say casually, "you'll need some similar system yourselves."

In a country where the State has taken so much of people's money, and where so much vital work has therefore come to depend on State funds, bureaucratic control of the whole national life can be avoided only by taking thought. The plain fact is that, in more and more of its activities, the State will have to relinquish its right to decide precisely how its funds shall be spent in detail. Having found reliable people to do a particular job, and having decided how much housekeeping money they can be allowed, it must resist the temptation to retain control by going through the weekly books and asking for explanations.

So far as the universities are concerned, the Treasury (to do it justice) has understood this. Well knowing that universities, to fulfil their function, must be independent, it has warmly defended the system by which State money does not go direct to any university but to an intermediate, non-official, committee, which makes the actual grants. Thanks to this defence, our universities are now financed in a way which they regard as both equitable and acceptable; and the rest of us have the comfort of knowing that the British Constitution can still show resilience and adaptability.

The necessary departure from financial precedent cannot, however, be expected to please those whose function it is to see that every penny of public expenditure is publicly accounted for; and this year the Committee of Public Accounts [1] renews its demand that the Comptroller and Auditor-General "should have access to the books and accounts of the universities at least in so far as they relate to non-recurrent grants." If the universities are spending their grants wisely (the committee says) they have nothing to fear; for it is not the custom of the Comptroller and Auditor-General "to raise questions of policy, which might conflict in any way with their properly prized academic freedom". But the committee does not explain how or to whom the universities are to prove that their expenditure is wise; and its remarks about deflection of funds from one scheme to another suggests that, in its eyes, procedure should have precedence over common sense.

The Committee of Public Accounts, as Parliamentary watchdog, is, of course, acting in character in protesting repeatedly against something new about which it has doubts. In so doing it is fulfilling its constitutional functions, and on good days it can itself be held up to the admiration of strangers. At the same time there comes a point at which one need no longer heed the warnings of a dog, however faithful, which barks at every sight of the postman.

UNIVERSITY OF KHARTOUM

IN 1916 a fund was opened to commemorate the name of Lord Kitchener by creating a medical school in the Sudan. The Kitchener School of Medicine was opened in 1924 and was directed and staffed by members of the Sudan Medical Service. It provided free medical education for Sudanese students. The course was based on the British curriculum, modified to suit local needs. Its duration was gradually lengthened to the present six years.

Since 1928, when the first 7 students qualified, over 150 have graduated from the school. They have largely replaced the doctors from Britain and other countries in the ministry of health medical service, almost all the senior appointments in which are now held by graduates of the school. In 1940 the Royal Colleges of Physicians of London and Surgeons of England granted recognition to the school, enabling its graduates to sit for the diplomas of the colleges.

In 1951 the Gordon Memorial College and the Kitchener School of Medicine were amalgamated to form the University College of Khartoum. Control of the medical school passed from the Sudan Medical Service, although the Kitchener School of Medicine retained its name and identity. Whole-time teaching posts were created, the student intake increased to 30 per annum, and there was a general raising of standards, especially in preclinical subjects.

On July 24 this year, the University College became the University of Khartoum, and the Kitchener School of Medicine ceased to exist as a separate entity. The change of style has altered but little the work and development of the medical faculty. The first university degree in medicine will be conferred in 1959; until then graduates will continue to be awarded the diploma in medicine and surgery. The new university hopes that the Royal Colleges will continue to send an annual visitor and will accord the same privileges to the holders of the degree as they do to the diplomates of the Kitchener School. This recognition by the Royal Colleges is the corner-stone of the whole postgraduate training programme. External examiners from abroad are to be appointed in all major subjects, to preserve the academic standards of which staff and graduates are justly proud. At the present time the training of students is undertaken by the whole-time teachers of the academic staff, supported by part-time lecturers from among the specialists of the ministry of health. The academic staff is still predominantly British, but it is hoped that an increasing number of Sudanese will enter academic medicine as a career in their new university.

UNIVERSITY COLLEGE OF RHODESIA AND NYASALAND

THE University College has appointed a planning committee to advise:

". . . on the desirability and practicability of establishing a medical school as an integral part of the College; to prepare proposals for the training curriculum, postgraduate training, the research facilities, the buildings, equipment and staffing required, including those required for a suitable teaching hospital and other centres for clinical facilities; to prepare estimates of the capital and recurrent costs involved and a phased time-table for development; and to make any other proposals and suggestions for the development of medical education and research under the auspices of the College."

Mr. L. Farrer-Brown, director of the Nuffield Foundation, is the chairman of the planning committee, and the other members are Prof. W. Melville Arnott, F.R.C.P., Prof. T. H. Davey, M.D., Prof. A. D. M. Greenfield, M.B., D.SC., Prof. P. B. Medawar, D.SC., F.R.S., Prof. R. Milnes Walker, F.R.C.S., and Dr. Honor Smith.

University of Cambridge

On Aug. 4 the following degrees were conferred:

M.D.—M. F. Bethell, Keith Brown-Grant, J. M. S. Knott, I. H. Mills, M. T. Parker, R. H. B. Protheroe, J. P. D. Thomas.

M.B.—* R. T. Barnie-Adshead, * Margaret F. Beard, P. C. Bewes, Eleanor M. Bray, A. C. Brown, * F. G. Cooper, * Victor Cope, G. W. M. Faris, * C. A. Fox, * Jennifer M. D. Gibson, * P. F. Gray, * A. L. Gunn, * O. W. Hill, * Elizabeth D. Hocking, T. W. Hoskins, J. K. L. Jones, N. F. Jones, * Frances J. Keegan, N. D. Kilpatrick, * R. K. L. Percival Smith, * G. M. Petrie, R. E. Scott, * Brenda J. Sheail, M. G. Smedley, R. W. M. Smith, K. A. M. C-O. Swinburne, * Jean E. Vallis, * C. P. K. Watson, * L. G. Whitby, G. E. G. Williams, * Gordon Yates, T. W. Young.

M.B., B.Chir.—*P. S. Bentlif, *P. D. Jackson, *A. H. H. Johnson, * W. R. B. Jones, B. M. King, * R. W. Lister, * Gerald Maisel, Frank Mansfield, Joseph Shaw, * I. A. D. Todd, Vincent Whitehead.

* By proxy.

University of Western Australia

The following have been appointed to chairs in the newly established medical school:

Biochemistry.—Mr. J. W. H. Lugg, PH.D., professor of biochemistry in the University of Malaya; formerly of the University of Melbourne.

Physiology.—Dr. W. J. Simmonds, of the Kanematsu Memorial Institute of Pathology, Sydney Hospital; formerly lecturer in physiology in the University of Sydney.

Pathology.—Dr. R. E. J. ten Seldam, reader in physiology in the University of Sydney; formerly director of pathology of the Roman Catholic Hospitals, Eindhoven.

Previous appointments were recorded in *The Lancet* of June 9, 1956.

Director of R.A.F. Medical Services

Air Vice-Marshal P. B. Lee Potter has been appointed, in the acting rank of air marshal, to be Director-General of the R.A.F. Medical Services from February, 1957, in succession to Air Marshal Sir James Kilpatrick, who is retiring.

Births, Marriages, and Deaths

BIRTHS

CLIFT.—On Aug. 8 to Dorothy Clift (née Newell), M.B., B.CH., wife of Arthur Clift, F.R.C.S.—a daughter (Cecilia Margaret), a fifth child.

MARRIAGES

LIGGETT–CAMPBELL.—Samuel Wilberforce Liggett, M.B., F.R.C.S.E., M.R.C.O.G., of Londonderry, to Daphne Louise Campbell.

1. Sixth Report from the Committee of Public Accounts, Session 1955–56. H.C. 348. H.M. Stationery Office. Pp. 36. 1s. 6d.

MA3644

THE *new* ANTIBIOTIC

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Scott's Twin-Pack feeds, protects, soothes and educates. It feeds because each ounce gives over 100 calories. It protects and soothes because it is fortified by the addition of Vitamin D, calcium and trace elements, whilst it also contains Vitamin B_1 which is associated with the development of healthy nerve tissues. Moreover, Scott's Twin-Pack is easily digested and assimilated. Finally, Scott's Twin-Pack helps to educate baby's taste and pave the way towards a full varied diet, because each of the two cereals has its own distinct flavour.

Scott's Twin-Pack consists of pre-cooked and prepared oats and wheat, each in a separate waxed paper container, within the specially protected outer pack. It accords perfectly with modern teaching of the early addition of solids and variety to a baby's diet.

THE ANALYSES BELOW
give you the full nutritional details:-

OAT

Scott's Baby Cereal—Oat consists of oat flour, malt extract, bone phosphate, dried yeast, salt, iron and ammonium citrate, manganese sulphate, copper sulphate and calciferol (Vitamin D.)

	per cent.		grm. per oz.
Fat (by acid hydrolysis)	6.2	Fat (by acid hydrolysis)	1.76
Protein (N x 6.25)	11.2	Protein (N x 6.25)	3.18
Carbohydrate	72.3	Carbohydrate	20.53
Mineral Matter	2.4		mg. per oz.
Fibre	0.6	Iron	5.0
Moisture	7.3	Calcium	120.0
	per oz.	Phosphorus	110.0
Vitamin D	600 I.U.	Trace Elements: Zinc	1.0
Vitamin B_1 (as Aneurin Hydrochloride)	0.22 mg.	Copper	0.1
		Manganese	0.1

Calories 114 per oz.

WHEAT

Scott's Baby Cereal-Wheat consists of wheat flour, malt extract, wheat germ, bone phosphate, calcium carbonate, dried yeast, salt, iron and ammonium citrate, manganese sulphate and calciferol (Vitamin D.)

	per cent.		grm. per oz.
Fat (by acid hydrolysis)	2.0	Fat (by acid hydrolysis)	0.57
Protein (N x 6.25)	14.0	Protein (N x 6.25)	3.98
Carbohydrate	72.5	Carbohydrate	20.59
Mineral Matter	2.6		mg. per oz.
Fibre	0.4	Iron	5.0
Moisture	8.5	Calcium	120.0
	per oz.	Phosphorus	100.0
Vitamin D	600 I.U.	Trace Elements: Zinc	0.5
Vitamin B_1 (as Aneurin Hydrochloride)	0.17 mg.	Copper	0.1
		Manganese	0.1

Calories 106 per oz.

Scott's staff of fully qualified dieticians are always available to give information and advice on any particular problem of diet that may arise. Diet sheets from:-

Birth to 4 months 3 to 4 months to 1 year
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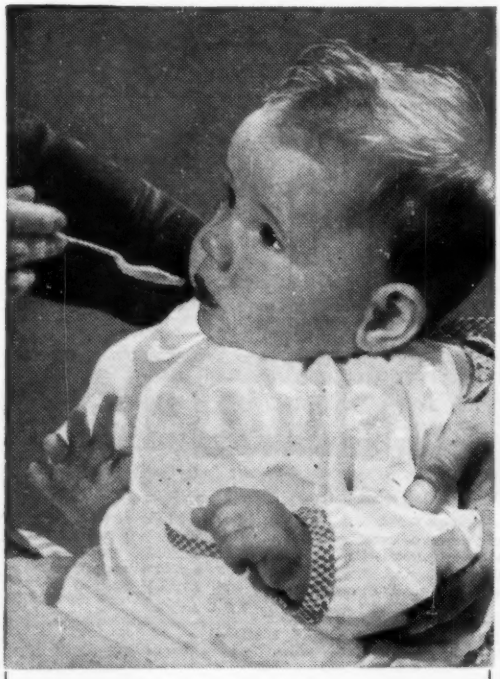

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RYBARVIN brings relief. Consistently, often spectacularly, attacks are cut short and their frequency lessened. Free from excess acid, non-irritant and non-habit-forming it is an ideal inhalant for all asthmatics young and old.

Formula	
Pituitary Extract. Posterior and Anterior Lobe	0·40% w/v
Methylatropine Nitrate	0·14% w/v
Papaverine	0·08% w/v
Adrenaline	0·40% w/v
Ethyl Para-aminobenzoate	0·20% w/v
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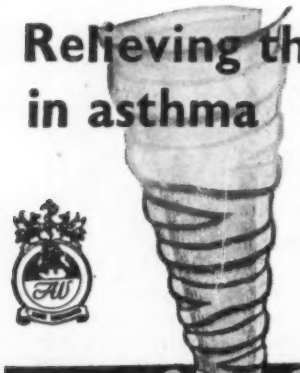
Relieving the bronchial tree in asthma



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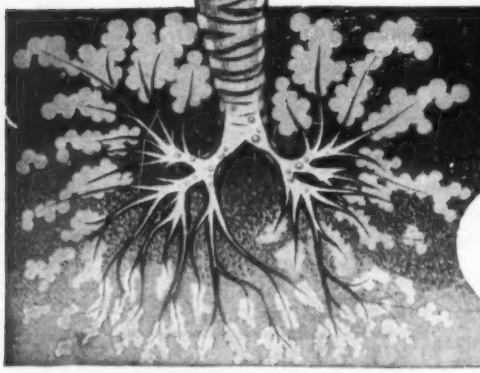

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Ephedrine Hydrochloride B.P. ..	0.015 g.	(0.23 grain)
Caffeine B.P.	0.10 g.	(1.54 grains)
Theophylline with Ethylenediamine B.P.	0.15 g.	(2.31 grains)

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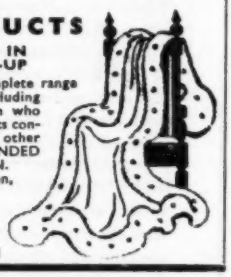

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Regulations and forms of application for admission to the examinations may be obtained from:—

THE REGISTRAR
THE SOCIETY OF APOTHECARIES
BLACK FRIARS LANE, E.C.4

INCORPORATED 1505
ROYAL COLLEGE OF SURGEONS OF EDINBURGH

COPIES OF REGULATIONS for the FELLOWSHIP, LICENCE, FELLOWSHIP IN DENTAL SURGERY, and LICENCE IN DENTAL SURGERY, containing Dates of Examinations, may be had on application to—

DAVID THOMSON, Clerk of the College.
Surgeons' Hall, 18, Nicolson-street, Edinburgh, 8.

ALL MEDICAL EXAMINATIONS

Are you preparing for any

Medical or Surgical Examination?

Do you wish to coach in any branch of Medicine or Surgery?

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"GUIDE TO MEDICAL EXAMINATIONS"

Principal Contents:

The Examinations of the Conjoint Board.
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¶ The activities of the Medical Correspondence College cover every department of Medical, Surgical, and Dental tuition.

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¶ The courses of the College in every subject are always in progress and meet every requirement.

The Secretary

MEDICAL CORRESPONDENCE COLLEGE
19, Welbeck Street, London, W.1

Sir,—Please send me your "Guide to Medical Examinations" by return.

NAME .....

ADDRESS .....

.....

Examination in which interested .....

THE ROYAL LONDON HOMŒOPATHIC HOSPITAL

Great Ormond Street and Queen Square, London, W.C.1

Course of Instruction in the **Principles and Practice of Homœopathy** for Medical Practitioners and Senior Students of Medicine.

These lectures, which are given under the auspices of The Homœopathic Research and Educational Trust, deal with the subjects required for examination for the Diploma of The Faculty of Homœopathy.

The Complete Course, which comprises three Sessions, commences on 12th October, 1956, and is preceded by an introductory lecture at the Hospital on 11th October at 5.30 p.m. by

A. C. GORDON ROSS, M.B., CH.B., M.F.HOM.

The subjects dealt with throughout the course are:

Homœopathic Philosophy and Prescribing
Homœopathic Materia Medica and Therapeutics
The Study of the Repertory

combined with Clinical Tutorials.

Fee for registered medical practitioners £10 10s. per session, medical students admitted without charge. Scholarships and Grants to enable doctors to attend this Course are offered by The Homœopathic Research and Educational Trust.

Full particulars can be obtained on application to the Dean of The Education Course at the Hospital.

THE ROYAL DENTAL HOSPITAL OF LONDON

SCHOOL OF DENTAL SURGERY

(University of London)

Patron: H.M. THE QUEEN

TEACHING STAFF: 60.

Total number of students (1954–55), 205.

ADMISSION: The School is open to men and women on equal terms. Students may be admitted to the courses for the B.D.S. Degree of the University or the L.D.S. Diploma of the Royal College of Surgeons of England in October and January. A limited number of selected students may be admitted in October for the First Medical course at the Royal Free Hospital School of Medicine

DURATION OF COURSE: For the Degree, approximately 4½ years after passing the First Medical examination, and for the Diploma approximately 4 years after passing the Pre-Medical examination.

FEES: Registration fee, 5 guineas. Annual Composition fee, £75 (final instalment for B.D.S. students, £20) inclusive of fees for intercollegiate courses for First M.B., Anatomy, Physiology, General Medicine and Surgery, materials, hire of apparatus, etc. Numerous scholarships and prizes are awarded annually, including an open Entrance Scholarship of £100.

FACILITIES: The School contains a Museum, Library, departments for instruction in Prosthetics, Orthodontics, General and Dental Bacteriology and Pathology, Radiology, Clinical Photography and Visual Education, and every accommodation for teaching the theory and practice of Dental Surgery. The Royal Dental Hospital In-Patient Unit of operating theatre and twelve beds is situated at the Grove Hospital, Tooting.

The Athletic Ground is at Colindale.

HOUSE APPOINTMENTS: Six Senior House Surgeons and eighteen ordinary House Surgeons are appointed each year.

Address: 32 LEICESTER SQUARE, W.C.2

Tel.: Whitehall 6427

Stations: Leicester Square, Piccadilly Circus

Dean: H. L. HARDWICK, F.D.S., L.R.C.P., M.R.C.S.

School Secretary: K. R. McK. BIGGS, B.A.

ROYAL COLLEGE OF SURGEONS OF ENGLAND

POSTGRADUATE TEACHING

A programme of postgraduate teaching has been arranged, including the study of surgery and surgical and allied specialties. A full-time Course in Clinical Surgery is held twice a year and in addition, clinical conferences are arranged to take place at various hospitals during the periods when lectures in general surgery and anæsthetics are being held.

Specialists are available to advise postgraduate students regarding study in General Surgery, Orthopædic Surgery, Plastic Surgery, Anæsthetics, and Dental Surgery, who will assist as far as possible in finding suitable clinical instruction and clinical appointments.

The following courses have so far been arranged for 1956–57 :

GENERAL SURGERY

27th August–19th October, 1956. (Full-time course to be held at Central Middlesex and West Middlesex Hospitals. Limited entry.)
1st–19th October, 1956 (24 lectures)
1st–19th April, 1957 (24 lectures)
Fees : Full-time courses (2 months) £26 5 0.
Part-time courses (3 weeks) £15 15 0.
Lectures only £10 10 0.
Individual lectures 10s. each.

FACULTY OF DENTAL SURGERY

Course of Lectures and Clinical Demonstrations in General, Oral and Dental Surgery

(In conjunction with the Institute of Dental Surgery)
22nd October–14th December, 1956 (24 lectures)
Dates to be announced later (24 lectures)
Fees : Full course £31 10 0.
Lectures only £10 10 0.

FACULTY OF ANÆSTHETISTS

Full-time Courses in Anæsthetics, consisting of 32 lectures, nightly discussion groups and clinical conferences, have been arranged for 1956–57 on the following dates :
15th–26th October, 1956
Courses will also be held in April and June, 1957
Fees : Lectures only £12 12 0.
Discussion Groups £10 10 0.
Clinical Conferences £2 2 0.
Individual lectures 10s. each.

PHARMACOLOGY

Two week Courses twice a year of lectures in Pharmacology have been arranged for 1956–57 as follows :
October–November, 1956
April–May, 1957
Fee : £6 6 0.
Individual lectures 10s. each.

EXAMINATIONS

The Final Examination for the Fellowship (F.R.C.S.) may be taken in Surgery, Ophthalmology, and Otolaryngology. There is also a Fellowship in Dental Surgery (F.D.S. R.C.S.) and a Fellowship of the Faculty of Anæsthetists (F.F.A. R.C.S.). Details of these examinations may be obtained either from the College or from the Examination Hall, 8–11, Queen Square, W.C.1.

CONJOINT EXAMINATIONS

The Diplomas of L.R.C.P., M.R.C.S., are granted jointly with the Royal College of Physicians, as well as Diplomas in 12 specialties.

SCHOLARSHIPS AND PRIZES

The College grants many Research Scholarships and Prizes and in certain cases makes grants in aid of surgical research, the work being carried out either in the College or elsewhere. Research facilities are available in Anatomy, Physiology, Pathology, and Pharmacology.

RESIDENTIAL COLLEGE

The Residential College comprises some 80 bedrooms, lounges, squash court, and billiard room, and is available for postgraduate students of the College and visiting doctors (from January, 1957).

Full particulars may be obtained on application to—

Mr. W. F. DAVIS, DEPUTY SECRETARY,
ROYAL COLLEGE OF SURGEONS, LINCOLN'S INN FIELDS, LONDON, W.C.2
(Telephone : HOLborn 3474)

THE ROYAL COLLEGE OF SURGEONS IN IRELAND

To which are attached by Charter THE SCHOOLS OF SURGERY

All students take the pre-medical course and then do five years medical course before completing the final examinations.

A composition fee of thirty-two pounds a term covers tuition, hospital fees, examination fees and the Students' Union.

There is a very active Students' Union with excellent playing fields about three miles from the schools.

A limited number of dental students is accepted.

Courses for the Primary Fellowship are held twice a year.

For information apply to the Registrar, 123, St. Stephen's Green, Dublin, Ireland.

UNIVERSITY COLLEGE LONDON

FACULTY OF MEDICAL SCIENCES

(University of London)

Gower Street, London, W.C.1

Dean of the Faculty : Professor F. R. WINTON, M.A., M.D., D.Sc.

The Faculty of Medical Sciences at University College London offers exceptional opportunities to medical and dental students. The staff, including teachers and research workers, is the largest in London, and for those with wide interests there is close contact with students in other Faculties.

At present about 60 medical students are accepted each October for direct entry into the 2nd M.B. course or the 2nd B.D.S. course.

On completing the Preclinical course most students attend University College Hospital Medical School or the National Dental Hospital for their clinical studies.

There are two Entrance Scholarships for the Preclinical course, and for those students who desire to take a B.Sc. (Special) Degree in Anatomy or Physiology following the 2nd M.B. Examination there are twelve Scholarships tenable for one year.

The prospectus of the Faculty and application forms may be obtained from the Secretary, University College London, Gower Street, W.C.1.

WEST END HOSPITAL FOR NEUROLOGY & NEUROSURGERY

91, Dean Street, London, W.1.

Dean: T. ROWLAND HILL, M.D., F.R.C.P.

M.R.C.P. COURSES IN NEUROLOGY

Courses of Lecture-Demonstrations in Neurology, suitable for post-graduate students sitting this, and similar, higher examinations, are held in the Spring and Autumn of each year. The dates of the Courses are advertised in the medical press.

Enquiries: Secretary of the Medical School. *Telephone:* GERrard 3703.

INSTITUTE OF NEUROLOGY

(QUEEN SQUARE)

LONDON, W.C.1

(University of London—British Postgraduate Medical Federation)

Associated with: The National Hospital, Queen Square, and the Maida Vale Hospital for Nervous Diseases, Maida Vale

The Institute provides postgraduate training in the various departments of Neurology.

THE OUT-PATIENT PRACTICE is open at 10 o'clock at QUEEN SQUARE every day (except Saturday). A fee of **£2 2s.** per month is charged for attending the Out-Patient Department only.

THE IN-PATIENT PRACTICE at QUEEN SQUARE and MAIDA VALE is open at 10 o'clock, and a limited number of Clinical Clerks are appointed at both Hospitals. Fees: three months, **£18**; six months, **£32.**

Special courses of instruction are given during the summer, autumn and winter terms, and Clinical Demonstrations are given on Wednesday afternoons and Saturday mornings as advertised in the Medical Journals.

Application should be made to the Dean at the Institute.

MICHAEL KREMER.

THE SOCIETY OF CHIROPODISTS

8, WIMPOLE STREET, LONDON, W.1

The Society is a member of the Board of Registration of Medical Auxiliaries.

Its diploma is accepted by the Medical Profession as evidence of scientific knowledge and thorough practical training. The designatory letters are F.Ch.S. (Fellow), M.Ch.S. (Member), and A.Ch.S. (Associate).

The course of instruction covers the whole sphere of the theory and practice of Chiropody, and includes tuition in Anatomy, Physiology, Medicine, and Surgery in so far as these have a bearing on Chiropody. All lectures on Medical subjects are given by members of the Medical Profession and certain of the lectures are given in the Universities and Medical Schools of the cities where these Schools are situate. The training, which is approved by the Minister of Health, and the Dept. of Health for Scotland, occupies three years full-time instruction, and may be taken at any one of the following Schools, which are recognised by the Society:

Chelsea School of Chiropody,
Chelsea Polytechnic,
Manresa Road,
London, S.W.3.

London Foot Hospital School of Chiropody,
33 Fitzroy Square,
London, W.1.

Birmingham General Dispensary School of Chiropody
41 Newhall Street,
Birmingham, 3.

Manchester School of Chiropody,
Anson Road,
Victoria Park, Manchester, 14.

Royal Technical College, School of Chiropody,
28 and 29 The Crescent,
Salford, 5.

Edinburgh School of Chiropody,
81 Newington Road, Edinburgh.

Glasgow and West of Scotland College of Chiropody,
22 Windsor Terrace,
Glasgow, N.W.

Glasgow Southern Foot Hospital,
44 Cumberland Street,
Glasgow, C.5.

These Schools are attached to Foot Clinics where Students are afforded opportunities of seeing and treating those varied types of foot trouble which come within the province of the Chiropodist.

The Examinations in Anatomy, Physiology, Medicine, and Surgery are conducted by members of the Medical Profession from a panel approved by the Royal College of Physicians and Royal College of Surgeons of England respectively.

Further particulars may be obtained from the Secretary, L. W. Griffiths, F.A.C.C.A., A.C.I.S., or direct from any of the Schools referred to above.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL

TELEPHONE—EUSTON 5861

(UNIVERSITY OF LONDON), UNIVERSITY STREET, W.C.1

THE WINTER SESSION will commence on Tuesday, 2nd October, 1956

THE SCHOOL IS FOR FINAL STUDIES only. STUDENTS are prepared for the degrees of the Universities of—OXFORD, CAMBRIDGE, LONDON, and for the Diplomas of other qualifying bodies.

FEES.—The fees for the complete Clinical Course are £190. The fees are payable, if desired, in three annual instalments of £65. There are no extras, as the fees include (i) Courses of Instruction in Pharmacy, Vaccination, and Fevers; (ii) Life subscription to the Medical Society; (iii) Subscription to the U.C.H. Magazine.

SCHOLARSHIPS, EXHIBITIONS and Prizes (value £3000) are awarded annually. Among the most important are:—

I. GOLDSMID ENTRANCE SCHOLARSHIPS, entitling the holder to the Final Course of Medical Study, are offered for competition annually in July, and are open to Students who are preparing for the Degrees of the Universities of London, Oxford, Cambridge, or other British Universities, or for the Diplomas of the Royal Colleges of Physicians and Surgeons.

II. GOLDSMID ENTRANCE EXHIBITION, entitling the holder to a reduction of £126 of the fees due for the Full Course of Final Medical Study.

III. FILLITER ENTRANCE SCHOLARSHIP IN PATHOLOGY, entitling the holder to a reduction of £123 of the fees due for the Full Course of Final Medical Study.

Candidates will be examined in any two of the following subjects: Anatomy, Physiology, General Pathology, and Bio-Chemistry. Candidates need take the examination in Pathology alone, if they desire to enter only for the Filliter Entrance Scholarship in Pathology.

All further information and Prospectus can be obtained from the Secretary, and the Dean can be interviewed at any time by appointment.

Dean—J. D. S. FLEW, M.D., F.R.C.O.G. *Vice-Dean*—B. J. HARRIES, F.R.C.S.
Vice-Dean for Dental Students—W. B. BALDERSTON, L.R.C.P., L.R.C.S., L.R.F.P.S., L.D.S. (Glas.)
Secretary—Maj.-Gen. H. L. BIRKS, C.B., D.S.O.

INSTITUTE OF BASIC MEDICAL SCIENCES

Royal College of Surgeons of England

British Postgraduate Medical Federation

(University of London)

A programme of teaching in the basic medical sciences has been arranged for medical and dental postgraduates. In addition to the practical demonstrations in the laboratories and dissecting room, lectures are also given.

Facilities are available for advanced study in the basic medical sciences for a period of 1–3 years.

Course of Demonstrations and Lectures in Anatomy, Physiology and Pathology (for limited numbers only) and a Course of Revision Lectures (120)

17th September–21st December, 1956
11th February–17th May, 1957

Fees: £63 0 0. Lectures only £36 15 0.

(Applications for the course of demonstrations should be sent in at least 6 months in advance.)

Course of Demonstrations and Lectures in Anatomy, Physiology and Pathology in their Application to Dental Surgery and in Dental Anatomy and Histology

31st December, 1956–22nd February, 1957
10th June–25th July, 1957

Fee: £31 10 0.

Full particulars may be obtained on application to:—

Mr. W. F. DAVIS, Secretary, Institute of Basic Medical Sciences, Royal College of Surgeons of England, Lincoln's Inn Fields, London, W.C.2 (Tel. HOLborn 3474).

INSTITUTE OF PSYCHIATRY

(University of London)

(The Bethlem Royal Hospital and the Maudsley Hospital)

at

The Maudsley Hospital, Denmark Hill, London, S.E.5.

The Institute, which is in the British Postgraduate Medical Federation, provides courses of instruction covering up to three years for postgraduate students who wish to specialise in psychiatry or prepare for the Academic Postgraduate Diploma in Psychological Medicine of the University of London or the Diploma in Psychological Medicine of the Conjoint Board. The subjects covered include anatomy and biochemistry of the nervous system, neurophysiology, pathology of nervous and mental diseases, psychiatry of children and adults, delinquency, principles of psychotherapy, forensic psychiatry and criminology, psychology, mental testing and statistics. Clinical training is available throughout the year. There is a special six months' course in psychiatry of children. Selected students are eligible for appointments as house officer and registrar at the Bethlem Royal Hospital and the Maudsley Hospital.

Facilities for research and supervision of study for higher degrees can be provided in clinical work and in the biochemical, physiological, neuro-endocrinological, neuropathological, and psychological laboratories.

A course for Honours Graduates in Psychology is available in clinical psychology for the Academic Postgraduate Diploma in Psychology. In conjunction with the Institute of Neurology, a course in the techniques of electroencephalography is provided for doctors who expect to take up electro-encephalographic appointments in hospitals.

Further information may be obtained from the Dean, Institute of Psychiatry, Maudsley Hospital, Denmark Hill, London, S.E.5.

UNIVERSITY OF DUBLIN

SCHOOL OF PHYSIC, TRINITY COLLEGE

The SESSION will begin on 1st October, 1956.

Information regarding Courses for the Medical and Dental Degrees and for the Diploma in Gynæcology and Obstetrics may be obtained on application to the DEAN of the School of Physic, Trinity College, Dublin.

London School of Hygiene and Tropical Medicine

(University of London)

Incorporating the Ross Institute

Diploma in Public Health

The whole-time Course of Study for the University of London's Academic Postgraduate Diploma in Public Health is designed primarily for qualified medical practitioners who intend to engage in any branch of preventive medicine. The Course commences at the beginning of October each year and lasts for nine months. There are now no vacancies on the 1956–57 Course. Fee: 70 guineas (£73 10s.).

Diploma in Bacteriology

The whole-time Course for the University of London's Academic Postgraduate Diploma in Bacteriology commences at the beginning of October each year and lasts for nine months. There are now no vacancies on the 1956–57 Course. Applications for the subsequent session must be received not later than 1st March, 1957. The number of places is strictly limited. Fee: 70 guineas (£73 10s.).

Diploma in Tropical Medicine and Hygiene (Eng.)

The whole-time Course for the Coujoint Board's Diploma in Tropical Medicine and Hygiene, a continuous one of five months' duration, is held twice a year commencing next session on 1st October, 1956, and on 25th February, 1957. Fee: 40 guineas (£42).

Certificate and Diploma in Tropical Medicine and Hygiene (Lond.)

The whole-time Course of Study for the University of London's Academic Postgraduate Certificate and Diploma in Tropical Medicine and Hygiene is designed to give advanced training in tropical medicine. The Course commences at the beginning of October each year and lasts for nine months, the examination for the Certificate being held at the end of approximately four and a half months. Students must elect to study Clinical Tropical Medicine or Tropical Hygiene at the final part of the Course. Fee: 70 guineas (£73 10s.) for the whole course: 40 guineas (£42) for the Certificate Course only.

Certificate and Diploma in Applied Parasitology and Entomology (Lond.)

The whole-time Course of Study for the University of London's Academic Postgraduate Certificate and Diploma in Applied Parasitology and Entomology is designed mainly for graduates in medicine, veterinary medicine and veterinary science, but graduates in science or persons with approved non-graduate qualifications in medicine and veterinary medicine can be accepted. The Course commences at the beginning of October each year and lasts for nine months, the examination for the Certificate being held at the end of approximately four and a half months. Fee: 70 guineas (£73 10s.) for the whole Course: 40 guineas (£42) for the Certificate Course only.

Short Course in Statistical Methods applied to Medicine and Epidemiology

A Course in Statistical Methods applied to Medicine and Epidemiology is held annually on two days a week from approximately the beginning of March to approximately the end of June. Students without a medical qualification can be accepted. Applications to be received by the Registrar not later than 15th February. Fee: 15 guineas (£15 15s.).

Environmental Control

A ten-weeks' Course in Environmental Control is held twice a session commencing at approximately the beginning of October and beginning of March. Although intended primarily for health inspectors from abroad, the Course is so planned as to be of value to medical officers and others interested in the health aspects of environmental control both at home and abroad. Fee: 26 guineas (£27 6s.).

Applications for admission to courses should be made to the Registrar, London School of Hygiene and Tropical Medicine, Keppel Street, Gower Street, London, W.C.1.

INSTITUTE OF UROLOGY

in association with

ST. PETER'S, ST. PAUL'S AND ST. PHILIP'S HOSPITALS

POSTGRADUATE COURSES OF UROLOGICAL INSTRUCTION

Weekend Courses of Lectures and Demonstrations beginning on Friday afternoon and ending on Sunday about tea time: About once a month, as advertised.

Alternately — { "Essentials of Urology" / "Advanced Urology"

Fees for each course — £5 5s. 0d.

Weekly Lectures:

October 1956—March 1957.

Day: Wednesday. Time: 5 p.m. No fee.

Guest Lecturers:

Twice a year at the Royal College of Surgeons.

The practice of the hospitals, including the use of the Institute museum, reading-room and library, is open to students attending the courses.

Applications should be made to the Secretary, Institute of Urology, 10, Henrietta-street, Covent Garden, W.C.2.

UNIVERSITY OF ST. ANDREWS

Chancellor—His Grace THE DUKE OF HAMILTON, P.C., G.C.V.O., A.F.C., LL.D., F.R.G.S.

Rector—The Right Honourable VISCOUNT KILMUIR, G.C.V.O.

Vice-Chancellor and Principal—THOMAS MALCOLM KNOX, M.A., LL.D., F.R.S.E.

THE UNIVERSITY OF ST. ANDREWS includes the UNITED COLLEGE OF ST. SALVATOR AND ST. LEONARD AND ST. MARY'S COLLEGE IN ST. ANDREWS AND QUEEN'S COLLEGE IN DUNDEE.

FACULTY OF MEDICINE

Dean and Adviser of Studies at Queen's College, Dundee—Professor GEORGE HOWARD BELL, B.Sc., M.D., F.R.F.P.S.G., F.R.S.E.

Adviser of Studies at St. Salvator's College, St. Andrews—Professor ROBERT WALMSLEY, M.D., F.R.C.S.E.

The University confers the following DEGREES AND DIPLOMAS:—M.B., Ch.B., M.D., Ch.M., Ph.D., D.P.H. (all open to men or women).

Application for admission as a medical student should reach the Dean not later than 30th June in any year.

SESSION 1956–57 commences on 9th OCTOBER, 1956. The whole curriculum may be taken at Queen's College, Dundee, or the first 2 years and 2 terms may be taken in St. Salvator's College, St. Andrews, and the remainder in Queen's College, Dundee.

CLINICAL INSTRUCTION.—Ample facilities at Dundee Royal Infirmary (510 beds), Maryfield Hospital (360 beds), King's Cross Hospital (270 beds), Ashludie Hospital (220 beds), Dundee Mental Hospital (700 beds), Dundee Eye Institution, Dental Hospital, and other Medical and Surgical Institutions in Dundee and district.

HOSPITAL APPOINTMENTS.—Numerous resident hospital appointments are available in the above institutions.

RESIDENCE HALLS.—For Men and for Women in St. Salvator's College, St. Andrews, and Queen's College, Dundee.

STUDENTS' UNIONS.—Athletic Grounds and Gymnasia in St. Andrews and in Dundee.

BURSARY (SCHOLARSHIP) COMPETITIONS.—*For Queen's College, Dundee:* entry 8th April; Examinations May. *For St. Salvator's College, St. Andrews:* entry 15th February; Examinations March.

BURSARIES EXCLUSIVELY FOR MEDICAL STUDENTS.—*At St. Salvator's College, St. Andrews:* Taylour Thomson (for women), four of £40 for 6 years; Malcolm (for men or women), £40 for 5 years, vacant annually. *At Queen's College, Dundee:* Hepburn (for men or women), £25 for 3 years.

BURSARIES FOR WHICH MEDICAL STUDENTS ARE ELIGIBLE.—*At St. Salvator's College, St. Andrews:* About ten Bursaries ranging in value from £60 to £20, tenable for 3 or 4 years, vacant annually. *At Queen's College, Dundee.* Nine Entrance Bursaries of from £50 to £40 for 3 years, and four Bursaries of from £30 to £25 for allocation in the remaining years of the course.

RESIDENTIAL ENTRANCE SCHOLARSHIPS FOR MEN.—*At St. Salvator's College, St. Andrews:* Seven or eight of £100 competed for annually in March. Medical students are eligible.

PRELIMINARY EXAMINATION.—August and March. Entries 10th July and 1st February.

Fees for complete M.B., Ch.B. Course, including matriculation and examination fees, £288 14s.

PROVISION FOR POSTGRADUATE STUDY AND RESEARCH. Postgraduate Scholarships of £300 p.a. for 1 or 2 years available to graduates in all Faculties including Medicine.

Full information may be obtained from the DEAN OF THE FACULTY OF MEDICINE, Medical School, Dundee.

SCHOOL OF DENTISTRY

Adviser of Studies—Professor A. D. HITCHIN, M.D.S., F.D.S.R.C.S.Ed.

The University confers the DEGREES of B.D.S., M.D.S., D.D.Sc., and Ph.D. and the DIPLOMA IN PUBLIC DENTISTRY.

Full facilities for instruction are available in the Scientific and Medical Departments of the University, and Medical and Surgical Institutions.

The Dental Hospital is fully equipped for the training of Students in Mechanical, Prosthetic, and Operative Dentistry.

Financial assistance is available for students.

Full information may be obtained from the ADVISER OF STUDIES IN DENTISTRY, Park Place, Dundee.

College Gate, St. Andrews, June, 1956.

UNIVERSITY OF BRISTOL

FACULTY OF MEDICINE

The University grants the Degrees of Bachelor of Medicine and Surgery (M.B., Ch.B.), Master of Surgery (Ch.M.), Doctor of Medicine (M.D.), Bachelor of Dental Surgery (B.D.S.), Master of Dental Surgery (M.D.S.), and Bachelor of Veterinary Science (B.V.Sc.), as well as diplomas in Public Health (D.P.H.) and Dental Surgery (L.D.S.), and holds a training Course for Health Visitors.

For particulars apply to the Registrar, The University, Bristol, 8.

INSTITUTE OF PSYCHO-ANALYSIS

The Institute provides systematic training in the theory and practice of Psycho-Analysis. The course, which is compatible with employment in the London area, lasts approximately four years and comprises a personal analysis, clinical work under supervision and lectures and seminars.

For prospectus and further information application should be made to the Hon. Joint Training Secretaries, The Institute of Psycho-Analysis, 63, New Cavendish Street, London, W.1.

THE UNIVERSITY OF SHEFFIELD

FACULTY OF MEDICINE

Dean—J. G. McCRIE, *O.B.E.*, *T.D.*, M.B., F.R.C.P.Ed.

The University grants Degrees in Medicine and Surgery (M.B., Ch.B., M.D., Ch.M.) and in Dental Surgery (B.D.S., M.D.S.). It also grants a Diploma in Public Health (D.P.H.) a Diploma in Microbiology (Dip. Microbiol.) and a Diploma in Dental Surgery (L.D.S.). These are all open to men and women on equal terms.

The Session 1956–57 begins on October 8th.

Lectures and laboratory courses are given in the University, whilst clinical instruction is provided in the general and special Hospitals in the City.

A number of resident hospital appointments are open to qualified students of the School, both male and female.

HALLS OF RESIDENCE.—FOR MEN: Crewe Hall, Clarkehouse Road, Sheffield, 10; Ranmoor House, Fulwood Road, Sheffield, 10; Stephenson Hall, Oakholme Road, Sheffield, 10.

FOR WOMEN: University Hall for Women, Endcliffe Vale Road, Sheffield, 10, and annexes.

Particulars of the Halls may be obtained from the Wardens.

SCHOLARSHIPS.—A number of Entrance Scholarships are open to students wishing to enter the Faculty of Medicine. There are also Postgraduate scholarships.

Entries to the Medical and Dental Schools are strictly limited in order to ensure adequate lecture and laboratory accommodation for all students. The relatively ample number of hospital beds available renders the facilities for clinical instruction unusually large.

Prospectuses containing details of the Medical and Dental Schools may be obtained, respectively, from the Dean of the Faculty of Medicine and the Director of Dental Studies; and one giving particulars of Scholarships from the undersigned.

A. W. CHAPMAN, Registrar.

BRITISH POSTGRADUATE MEDICAL FEDERATION

(UNIVERSITY OF LONDON)

THE INSTITUTE OF LARYNGOLOGY AND OTOLOGY

330/332, Gray's Inn Road, London, W.C.1

IN ASSOCIATION WITH

THE ROYAL NATIONAL THROAT, NOSE AND EAR HOSPITAL

The Institute is organised to provide instruction in this Specialty for the whole period of training necessary to reach full consultant standard. There are ample clinical and research facilities and teaching is carried on continuously daily throughout the year.

There are full-time comprehensive courses of lectures and demonstrations for periods of 8 months commencing in February and September each year suitable for those intending to take the D.L.O. (R.C.P. & S. Eng.); intensive clinical courses (6 weeks) in February and July, intended as a basis for practical clinical training; revision classes (2 weeks) for part II D.L.O. students in June and November; advanced revision classes in March and October for students preparing for the Final F.R.C.S. examinations in Otolaryngology.

There are also from time to time short courses for senior students in endoscopy, aural surgery, pathology and in the treatment of the deaf child.

A number of paid appointments, which are open to postgraduate students in the different stages of training, give opportunities of clinical experience and research.

Further information may be obtained from the Dean.

UNIVERSITY OF EDINBURGH

FACULTY OF MEDICINE

The University grants the Degrees of Bachelor of Medicine and Bachelor of Surgery (M.B., Ch.B.), Doctor of Medicine (M.D.), Master of Surgery (Ch.M.), Bachelor of Dental Surgery (B.D.S.), Master of Dental Surgery (M.D.S.), Bachelor of Veterinary Medicine and Surgery (B.V.M. & S.), and Doctor of Veterinary Medicine and Surgery (D.V.M. & S.).

The approximate cost of the 6 years' course, for the Degrees of M.B., Ch.B., is £310. The curriculum for the Degree of B.D.S. is of 5 years' duration, and the approximate cost is £285. The course for the Degree of B.V.M. & S. extends over five years; the approximate cost being £295. Prospective students are normally required to make application to the Dean of the Faculty of Medicine, on a prescribed form, not later than 31st December of the year prior to that in which they wish to enter the Faculty.

The University grants Diplomas in Public Health, Psychiatry, Medical Radiodiagnosis, Medical Radiotherapy, Tropical Medicine and Hygiene, Tropical Veterinary Medicine, and Veterinary State Medicine, and full courses of instruction for the Diplomas are provided.

A Nurse-Tutor Certificate is granted in conjunction with the Royal College of Nursing. Inquiries regarding the course should be addressed to Miss Stephenson, Director, University Nursing Teaching Unit, 40b, George Square, Edinburgh.

A Certificate in Medical Illustration, the course for which extends over a period of 3 years, is given. The course is suitable for persons who desire to take up medical illustration as a profession. Prospective students are invited to submit their applications as soon as possible.

In the various Departments of the Faculty of Medicine provision is made for research by students of graduate standing.

A copy of the Faculty Programme may be obtained from the Dean of the Faculty of Medicine, University, Teviot Row, Edinburgh, 8. Programmes regarding Degrees in other Faculties may be obtained from the Matriculation Office, University, South Bridge, Edinburgh, 8.

CHARLES H. STEWART, Secretary to the University.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

The EXAMINATIONS for the MEMBERSHIP of the College are held quarterly during the FIRST WEEK of JANUARY, APRIL, JULY, and OCTOBER.

Candidates for the MEMBERSHIP must submit their applications and testimonials to the Secretary one month before the date at which they wish to appear for Examination.

For the regulations in regard to the LICENCE of the College (as a single qualification) and in regard to the various qualifications granted by the College and all other information, application should be made to the Secretary.

THE UNIVERSITY OF LEEDS

DENTAL SCHOOL AND HOSPITAL

Warden: PROFESSOR T. TALMAGE READ, F.R.F.P.S., F.D.S.R.C.S., L.R.C.P.

The First Term begins on **October 2nd, 1956.**

The degrees of B.Ch.D. and M.Ch.D., as well as a diploma, L.D.S., are conferred by the University.

The first year studies are taken in the Science Departments of the University and a complete professional education is provided by the Dental School and Hospital, the Medical School and the General Infirmary at Leeds.

For prospectus and further information, application should be made to:

The Warden, Dental School and Hospital, Leeds, 1.

UNIVERSITY OF WALES

THE WELSH NATIONAL SCHOOL OF MEDICINE, CARDIFF

Courses of Instruction for Medical Degrees and Diplomas

Courses of Instruction are conducted for Medical Degrees (M.B., B.Ch.) of the University of Wales.

N.B.—*Application for admission must be made before 1st December in the year immediately preceding that in which admission is sought.*

FEES. The Composition fee for the pre-medical year is £35, and for each subsequent year £45. The approximate total cost of the six years' course is £425, including Incidental Fees, Students' Societies Fees, and the Examination Fees of the University of Wales. Certain Scholarships, &c., are available.

POSTGRADUATE STUDY. Facilities are provided for approved research. Postgraduate Scholarships are available ranging in value from £150 to £250 per annum.

Complete Postgraduate Courses of Instruction are conducted in Radiology R.C.P. & S.(Eng.), and for the Diploma in Public Health (D.P.H.), and Tuberculous Diseases Diploma (T.D.D.) of the University of Wales. A short course on Tuberculosis and Diseases of the Chest is also conducted. Postgraduate Courses for Practitioners are arranged.

Application for admission to any of the Courses should be made to the PROVOST, The Welsh National School of Medicine, 34, Newport Road, Cardiff, from whom further particulars may be obtained.

THE QUEEN'S UNIVERSITY of BELFAST

FACULTY OF MEDICINE, 1956-57

Dean: Professor J. H. Biggart, C.B.E., M.D., D.Sc., M.R.C.P.

The University offers the primary degrees of Bachelor of Medicine (M.B.), Bachelor of Surgery (B.Ch.), and Bachelor of Obstetrics (B.A.O.), which are conferred at the same time and after the same course of study extending over a period of not less than five academic years.

The following higher degrees are offered to graduates of the University—Doctor of Medicine (M.D.), Master of Surgery (M.Ch.), and Master of Obstetrics (M.A.O.). These degrees may be conferred after an examination, or on the approval of a thesis with an examination.

The University offers a Diploma in Public Health.

The Licence in Dental Surgery (L.D.S.), the Bachelorship and Mastership of Dental Surgery (B.D.S.) and (M.D.S.) may be conferred on candidates who have attended and passed examinations in courses appropriate to Dental students.

The Lectures in Michaelmas Term, 1956-57, begin on Tuesday, 9th October, 1956. The total fees amount to approximately £500. Entrance scholarship examinations are held in June yearly. A number of undergraduate scholarships are awarded on the results of professional examinations.

HOSPITALS RECOGNISED FOR CLINICAL INSTRUCTION

BENN EYE, EAR AND THROAT HOSPITAL (54), CITY HOSPITAL (1653), MATER INFIRMORUM HOSPITAL (195), NORTHERN IRELAND FEVER HOSPITAL, PURDYSBURN (390), OPHTHALMIC HOSPITAL (30), PURDYSBURN HOSPITAL FOR MENTAL DISEASES, ROYAL BELFAST HOSPITAL FOR SICK CHILDREN (114), ROYAL MATERNITY HOSPITAL (96), ROYAL VICTORIA HOSPITAL (554), SAMARITAN HOSPITAL (54), ULSTER HOSPITAL FOR DISEASES OF CHILDREN AND WOMEN (100).

(The figures indicate the number of clinical beds available.)

Further information about admission, scholarships and the faculty, can be obtained from the following publications:—

Entrance Regulations, price 1/-; Scholarship Regulations, price 1/-; Regulations for the School of Dentistry, price 1/-; and Regulations for the Faculty of Medicine, price 1/-, obtainable from the Bursar. Postage 3d. extra.

G. R. COWIE, M.A., LL.B., Secretary.

BRITISH POSTGRADUATE MEDICAL FEDERATION
UNIVERSITY OF LONDON

THE SCIENTIFIC BASIS OF MEDICINE
1956–1957

FIRST TERM: OCTOBER–NOVEMBER, 1956

The following Lectures, which are designed especially for research workers and specialists in training, will be delivered at The London School of Hygiene and Tropical Medicine, Keppel Street, W.C.1, on Tuesday and Thursday afternoons at 5.30 P.M. during the first term of the session 1956–57. Admission free without ticket.

Date	*Lecturer*	*Title*
October:		
Thurs., 11th (In the Beveridge Hall, Senate House, Univ. of London, W.C.1.)	Sir JOHN COCKCROFT, K.C.B., C.B.E., F.R.S. (Director, Atomic Energy Research Establishment, Harwell)	The Biological Significance of Atomic Energy
Tues., 16th	Dr. K. M. SMITH, C.B.E., D.SC., PH.D., F.R.S. (Director, Virus Research Unit of the Agricultural Research Council, Molteno Institute, Cambridge)	The Electron Microscope in the Study of Viruses
Thurs., 18th	Dr. F. H. C. CRICK, PH.D. (M.R.C. Unit for Research on Molecular Structure of Biological Systems, Cavendish Laboratory, Cambridge)	The Structure and Function of Small Viruses
Tues., 23rd	Dr. V. P. WHITTAKER, M.A., D.PHIL. (Biochemistry Department, Agricultural Research Council Institute of Animal Physiology, Babraham, Cambridge)	The Metabolism of Choline Esters
Thurs., 25th	Dr. MARY BARBER, M.D. (Reader in Bacteriology, St. Thomas's Hospital Medical School)	Resistance of Staphylococci to Antibiotics
Tues., 30th	Prof. E. C. AMOROSO, PH.D., M.B., B.CH., B.SC., B.A.O. (Professor of Veterinary Physiology, Royal Veterinary College and Hospital)	Endocrinology of Pregnancy
November:		
Thurs., 1st	Prof. W. J. HAMILTON, D.SC., M.D., F.R.S.E. (Professor of Anatomy, Charing Cross Hospital Medical School)	Multiple Pregnancy
Tues., 6th	Mr. W. J. DEMPSTER, F.R.C.S. (Lecturer in Experimental Surgery, Department of Surgery, Postgraduate Medical School of London)	Homotransplantation of Organs
Thurs., 8th	Prof. C. G. ROB, M.C., M.CHIR., F.R.C.S. (Professor of Surgery and Director of Surgical Unit, St. Mary's Hospital)	Arterial Substitutes
Thurs., 15th	Sir RUSSELL BROCK, M.S., F.R.C.S. (Director, Thoracic Surgery Unit, Guy's Hospital Medical School)	The Relation Between the Embryology and Morphology of the Heart, and Cardiac Surgery
Tues., 20th	Dr. P. WOOD, O.B.E., M.D., F.R.C.P. (Director of Studies, Institute of Cardiology)	The Physiological Basis of Clinical Signs in Heart Disease
Thurs., 22nd	Dr. J. C. GILSON, O.B.E., M.A., M.R.C.P. (Director, M.R.C. Pneumoconiosis Research Unit, Llandough Hospital, Penarth)	Tests of Lung Functions: An Assessment of Their Usefulness
Tues., 27th	Dr. D. G. MELROSE, M.A., M.B., B.CH. (Lecturer in Surgical Physiology, Department of Surgery, Postgraduate Medical School of London)	Principles of Heart-Lung Machines
Thurs., 29th	Dr. C. LONG, M.A., B.SC., D.PHIL., F.R.S.E. (Senior Lecturer in Biochemistry, Institute of Basic Medical Sciences, Royal College of Surgeons)	Phospholipids

The second part of this series will commence on **Tuesday**, 8th January, 1957.

THE ROYAL INSTITUTE OF PUBLIC HEALTH AND HYGIENE

THE DIPLOMA IN PUBLIC HEALTH
THE DIPLOMA IN INDUSTRIAL HEALTH

The next COURSES OF INSTRUCTION for the above Diplomas will commence on 28TH SEPTEMBER, 1956. Tuition may be taken whole-time or part-time.

Prospectuses, enrolment forms and full details may be obtained from the Secretary, 28, Portland-place, London, W.1 (Telephone: LANgham 2731/2).

SOCIETY OF APOTHECARIES OF LONDON

DIPLOMA IN INDUSTRIAL HEALTH

The next Examination will begin on MONDAY, 3RD DECEMBER, 1956. The following Examination will be held in July, 1957. For Regulations apply Registrar, Apothecaries' Hall, Black Friars-lane, London, E.C.4.

(*Continued on page 49*)

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Vacancies

ACADEMIC AND EDUCATIONAL SECTION *Page* 47/49

ANÆSTHETICS

Dulwich, S.E.22. Sr. H.O. 50
Nelson, S.W.20. Sr. H.O. 51
North East Met. R.H.B. Regs. .. 51
Woolwich Group H.M.C. Sr. H.O.'s.. 52
Bedford Gen. Locum Reg. 52
Birmingham. Dudley Road. Sr. H.O. 52
Birmingham. Selly Oak. Sr. H.O... 52
Bristol United Hosps. & South-Western R.H.B. Reg. 53
Carshalton. St. Helier. Locum Reg... 53
Colchester. Essex County. Sr. H.O. 54
Doncaster Royal Infy. Sr. H.O... 54
Dudley, Stourbridge & Dist. Sr. H.O. 54
Exeter. Royal Devon & Exeter. Sr. H.O. 54
Farnborough. Kent. Sr. H.O. .. 54
Glasgow Royal Infy. Sr. H.O. .. 54
Ilford. King George. Sr. H.O. .. 55
Leeds R.H.B. Reg. 55
Newcastle R.H.B. Cons. 49
Northampton Gen. H.O. 56
Nottingham Gen. Sr. H.O. 56
Orpington, Kent. Sr. H.O. 56
Sheffield R.H.B. & United Sheffield Hosps. Sr. Reg. 58
South Cheshire H.M.C. Jr. H.M.O... 58
St. Albans City. Locum Reg... .. 58
Stafford H.M.C. Sr. H.O. 58
Worcester. Ronkswood. Sr. H.O. .. 58

BACTERIOLOGY

Scotland. Western R.H.B. Reg. .. 57

CASUALTY

Connaught, E.17. Sr. H.O. 50
Hampstead Gen., N.W.3. Sr. H.O... 50
Poplar, E.14. Sr. H.O. 51
Queen Mary's Hosp. for East End, E.15. H.O. 51
Royal Northern, N.7. Sr. H.O. .. 51
Brighton. Royal Sussex County. H.O. 53

(*continued overleaf*)

Chesterfield Royal. H.O. 54
Dudley, Stourbridge & Dist. Sr. H.O. 54
Epsom Dist. Sr. H.O. 54
Hertford County. Sr. H.O. or Locum 54
Huddersfield Royal Infy. Jr. H.M.O. or Sr. H.O. 55
Ipswich & East Suffolk. Locum Sr. H.O. 55
Isleworth. West Middx. Sr. H.O. .. 55
Leamington Spa. Warneford Gen. Sr. H.O. 55
Liverpool R.H.B. Sr. Cas. O. .. 49
Newcastle R.H.B. Sr. Cas. O. .. 49
Northampton Gen. H.O. & Sr. H.O... 56
Nottingham Gen. Sr. H.O. 56
Southend-on-Sea. Gen. Locum Sr. H.O. 58
Southport Gen. Infy. Jr. H.M.O. .. 58

CHEST AND TUBERCULOSIS
Brompton, S.W.3. H.O.'s 50
Birmingham (Sanatoria) Group H.M.C. Jr. H.M.O. 52
Brighton. Bevendean. Jr. H.M.O. .. 53
Maidstone. Preston Hall. Sr. H.O... 55
Midhurst. King Edward VII San. A.M.O. 56
Northampton. Creaton San. Sr. H.O. & H.O. 56
Reading & Dist. H.M.C. Jr. H.M.O. 57
Skipton. Grassington. Jr. H.M.O. .. 57
Wigan & Leigh H.M.C. Reg... .. 59
Woodford Green. Harts. Sr. H.O. .. 58

DENTAL SURGERY
Royal Free Hosp. Group. Reg. .. 51

DERMATOLOGY
Aberdeen Gen. Hosps. B.O.M. H.O. 52
Birmingham. Skin Hosp. Sr. H.O. or H.O. 53
Cambridge. Addenbrooke's. Reg. .. 53

EAR, NOSE, AND THROAT
Birmingham R.H.B. Reg. 52
Brighton & Lewes H.M.C. Sr. H.O... 53
Guildford. Royal Surrey County. Sr. H.O. 54
Hemel Hempstead, West Herts. P.-t. Clin. Asst. 55
Hull A Group H.M.C. Sr. H.O. .. 55
Manchester R.H.B. Reg. 56
Northampton Gen. Sr. H.O. .. 56
Oxford R.H.B. P.-t. Cons 49
Southampton. Royal South Hants & Gen. Sr. H.O. 58
South West Met. R.H.B. P.-t. Cons. 50

GERIATRICS
Scotland. Eastern R.H.B. Sr. Reg... 57
Watford. Shrodells. Sr. H.O. .. 58

HÆMATOLOGY
Manchester United Hosps. Sr. H.O. 56

INFECTIOUS DISEASES
Plymouth. Scott Isolation. Sr. H.O. 56

MEDICINE
Battersea Gen. H.O. 50
Bolingbroke. S.W.11. H.O. 50
Brompton, S.W.3. Reg. 50
Hampstead Gen., N.W.3. Pre-reg. H.O. 50
Hendon Dist., N.W.4. G.P.'s 51
Hither Green, S.E.13. Sr. H.O. .. 50
Lambeth, S.E.11. H.O. 51
Lambeth, S.E.11. Reg. 51
Mile End, E.1. H.O. 51
New End, N.W.3. H.O. 51
North East Met. R.H.B. Regs. .. 51
Princess Beatrice, S.W.5. H.O. .. 51
St. Nicholas, S.E.18. 51
Altrincham Gen. Sr. H.O. 52
Bedford Gen. Sr. H.O. 52
Beverley. Westwood. H.O. or Sr. H.O. 52
Blackburn. Queen's Park. Sr. H.O. 52
Bristol. Southmead Gen. Hosp. Group M.C. Sr. H.O. 53
Cambridge. Addenbrooke's. H.O. .. 53
Chelmsford. St. John's. H.O. .. 54
Colwyn Bay & West Denbighshire. Locum Jr. H.M.O. 54
Croydon. Mayday. Locum Reg. .. 54
Ilford. King George. Pre-reg. H.O. .. 55
Liverpool. Broadgreen. Sr. H.O. .. 55
Middlesbrough. Poole. Jr. H.M.O. or Sr. H.O. 56
Redhill, East Surrey. Pre-reg. H.O... 57
Rochford, Essex. Gen. Pre-reg. H.O. 57
Romford. Victoria. H.O. 57
Scunthorpe. War Mem. Sr. H.O.'s or Pre-reg. H.O.'s 57
Welsh R.H.B. Reg. 58
West Bromwich & Dist. Gen. Pre-reg. H.O. 59
Winchester. Royal Hants County. Pre-reg. H.O. 58
Canada. University of Alberta Hosp. Asst. Supt. 50

NEUROSURGERY
Bristol. Cossham/Frenchay H.M.C. Sr. H.O. 53
Manchester R.H.B. Reg. 55

OBSTETRICS AND GYNÆCOLOGY
Hammersmith Hosp. & Inst. of Obst. & Gyn., W.12. Locum Reg. .. 50
Norwood, S.E.19. P.-t. Clin. Asst. .. 51
Wandsworth Hosp. Group. Reg. & Locum Reg. 51/52
Boston. Gen. Reg. 53
Bristol. South-Western R.H.B. Locum Cons. 49
Canterbury. Kent & Canterbury. H.O. 53
Derby City. Pre-reg. H.O. or Sr. H.O. 54
Edgware Gen. & Bushey Maternity. Reg. 54
Edgware Gen. H.O.'s 54
Guildford. Sr. Luke's. Locum Reg. 54
Hastings. Buchanan. H.O. 55
Manchester R.H.B. Regs. 55
Manchester United Hosps. H.O.'s .. 56
Manchester. Withington. Sr. H.O. .. 56
Nottingham City. H.O. 56
Reading Combined Hosps. H.O. .. 57
Rochford. Gen. H.O... 57
South Cheshire H.M.C. Reg... .. 58
St. Helens & Dist. H.M.C. Sr. H.O. 58

OPHTHALMOLOGY
Maidstone. Kent County Ophthalmic & Aural. Sr. H.O. 55
Romford. Oldchurch. Sr. H.O. .. 57
Stoke-on-Trent. North Staffs Royal Infy. Sr. H.O. 58

ORTHOPÆDICS
Central Middx., N.W.10. Sr. Reg. .. 50
St. Charles', W.10. Sr. H.O. 51
St. James', S.W.12. Sr. H.O... .. 51
St. Nicholas, S.E.18. H.O. 51
Alton. Lord Mayor Treloar Orth. Sr. Reg. 52
Beverley. Westwood. H.O. 52
Birmingham. Royal Orthopædic. Sr. H.O. 53
Birmingham. Royal Orthopædic. Locum Sr. H.M.O. 49
Blackpool. Victoria. H.O. 53
Bournemouth. Royal Victoria. Sr. H.O. 53
Braintree. Black Notley. H.O. .. 53
Braintree. Black Notley. Locum Reg. 53
Chertsey. St. Peter's. Sr. H.O. or Pre-reg. H.O. 54
East Anglian R.H.B. Reg. 54
Leeds R.H.B. Reg. 55
Newmarket Gen. Sr. H.O. 56
Northampton Gen. H.O. 56
Portsmouth Group H.M.C. Pre-reg. H.O. 57
Salisbury Gen. Sr. H.O. or H.O. .. 57
Scunthorpe & Dist. War Mem. Reg... 57
Southampton. Royal South Hants. H.O. 58
Southport. Promenade. Sr. H.O. .. 58
Welsh R.H.B. Reg. 58

PÆDIATRICS
Hammersmith Hosp. & Inst. of Obst. & Child Health, W.12. Reg. .. 50
Canterbury. Kent & Canterbury. H.O. 53
Carshalton. Queen Mary's Hosp. for Child. Sr. H.O.'s 54
Chelmsford. St. John's. H.O. .. 54
Lincoln County. Reg... 55
Manchester. Duchess of York Hosp. for Babies & Wythenshawe. Sr. H.O. 56
Northampton Gen. H.O. 56
Reading. Royal Berks. H.O... .. 56
Stoke-on-Trent. City Gen. Pre-reg. H.O. 58

PATHOLOGY
South London Hosp. for Women & Child., S.W.4. Reg... 51
Birmingham. Group 25 Selly Oak H.M.C. Sr. H.O. 52
Manchester. West Manchester H.M.C. Sr. H.O. 56
Manchester. Withington. Sr. H.O. .. 56
Northampton Gen. Sr. H.O. .. 56
Oxford. United Hosps. Reg. .. 57
Sheffield R.H.B. Cons. 49

PHYSICAL MEDICINE
St. Thomas's, S.E.1. Sr. Reg. .. 51
Belfast H.M.C. Sr. H.O. 49

PLASTIC SURGERY
Chepstow. St. Lawrence. Sr. H.O. .. 53
Salisbury Group H.M.C. Reg. .. 57

PSYCHIATRY
Ayr. Glengall Mental. Locum Jr. H.M.O. 52
Bedford. Bromham. Reg. 52
Birmingham R.H.B. Regs. 52
Bristol. South-Western R.H.B. Cons. 49
Bury. Fairfield Gen. Jr. H.M.O. .. 53
Chichester. Graylingwell. Reg. .. 54
Gloucester. Barnwood House. Depty. Med. Sup. 49
Lancaster Moor. Locum Sr. H.M.O... 49
Lancaster Moor. Jr. H.M.O. 55
Manchester. Springfield. Sr. H.O. .. 55
Scotland. South-Eastern R.H.B. Regs. 57
South West Met. R.H.B. Cons. & Sr. H.M.O. 49
St. Albans. Cell Barnes. Reg. .. 58
Welsh R.H.B. Cons. 50
Willerby. De la Pole. Jr. H.M.O... 59
Northern Ireland Hosps. Auth. Sr. H.M.O. 50
Virginia, U.S.A. Physicians 50

RADIOLOGY
Hammersmith Hosp. & Postgraduate Med. School, W.12. Reg. 50
Royal Free, W.C.1. Reg. 51
Royal Northern, N.7. Reg. 51
Birmingham United Hosps. & R.H.B. Sr. Reg. 52
Colchester. Essex County. Locum Cons. or Sr. H.M.O. 49
Sheffield R.H.B. Sr. H.M.O. 49
South West Met. R.H.B. P.-t. Cons. 50

RHEUMATOLOGY
Sheffield. United Hosps. & R.H.B. Reg. 57

SURGERY
Brompton, S.W.3. Sr. H.O.'s or Regs. 50
Central Middx., N.W.10. Reg. .. 50
Hampstead Gen., N.W.3. Pre-reg. H.O. 50
Manor House, N.W.11. R.S.O. .. 51
New End, N.W.3. H.O.'s 51
North East Met. R.H.B. Regs. .. 51
Norwood, S.E.19. P.-t. Clin. Asst. .. 51
Alton. Henry Gauvain. Locum Reg. 52
Bexhill, Sussex. H.O. 52
Birmingham Accident. H.O.'s .. 52
Birmingham. Dudley Road. H.O. .. 52
Birmingham. Little Bromwich. H.O. 52
Birmingham R.H.B. Reg. 52
Birmingham United Hosps. Reg... 52
Blackburn. Royal Infy. Sr. H.O. .. 52
Burton-on-Trent. Gen. H.O. 53
Cambridge. Addenbrooke's. H.O. .. 53
Canterbury. Kent & Canterbury. H.O. 53
Cardiff. Caerphilly Dist. Miners. Sr. H.O. 53
Cardiff. Royal Hamadryad Gen. & Seamens. Sr. H.O. or Locum .. 53
Cardiff United Hosps. Reg... .. 53
Dudley, Stourbridge & Dist. Sr. H.O. 54
Edgware Gen. H.O.'s 54
Edgware Gen. Reg. 54
Epping. St. Margaret's. Sr. H.O. .. 54
Hereford Gen. H.O. 54
Hull. Victoria Hosp. for Sick Child. H.O. 55
Huntingdon County. H.O. 55
Leeds R.H.B. Regs. 55
Manchester R.H.B. Regs. 55
Manchester. Wythenshawe. Regs... 56
Northampton Gen. H.O. 56
Nottingham. Highbury. Sr. H.O. .. 56
Otley. Gen. Sr. H.O. 57
Portsmouth Group H.M.C. Sr. H.O.'s 57
Reading. Battle Hosp. H.O. .. 57
Salisbury Gen. H.O. 57
Sidcup & Swanley H.M.C. Locum .. 58
South East Met. R.H.B. P.-t. Cons. 50
St. Albans City. Locum Reg. .. 58
Stockport Infy. H.O... 58
Torquay. Torbay. Sr. H.O. 58
West Bromwich & Dist. Gen. Pre-reg. H.O. 59

THORACIC SURGERY
London Chest, E.2. Sr. H.O... .. 51
North East Met. R.H.B. Reg. .. 51
Bristol. Cossham/Frenchay H.M.C. Sr. H.O. 53
Oxford. United Hosps. H.O... .. 57
Sheffield City Gen. Reg. 57
Southampton Chest. Reg. 58

PUBLIC APPOINTMENTS 59

GENERAL PRACTICE 60

NON-MEDICAL 60

MISCELLANEOUS 60

The Terms and Conditions of Service of Hospital Medical and Dental Staff apply to all N.H.S. hospital posts we advertise, unless otherwise stated. Canvassing disqualifies, but candidates may normally visit the hospital by appointment.

Academic and Educational

(Continued from page 47)

THE MILROY LECTURES ON STATE MEDICINE AND PUBLIC HEALTH

The Council of the Royal College of Physicians of London are prepared to receive applications for the office of MILROY LECTURER for 1958.

Applications must be addressed to the Registrar, Royal College of Physicians, Pall Mall East, S.W.1, to reach the College on or before WEDNESDAY, 5TH SEPTEMBER, 1956, and to include a short synopsis of the subject selected by the candidate.

2 Lectures are to be given on a Tuesday and Thursday in February or March, 1958.

A copy of Dr. Milroy's "Suggestions" on the subject of his bequest, and information as to the emolument, may be obtained from the Registrar.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. Applications are invited for the full-time post of FIRST ASSISTANT (Senior Lecturer grade) in the new Research Department of Anæsthetics. Applicants should be medically qualified, and should have had experience in physiological research. Starting salary will be in the range £1250–£1750 according to qualifications and experience. The post is superannuable and a family allowance is payable.

Applications in writing (2 copies), giving details of qualifications and experience, together with the names of 2 referees, should be sent to Mr. W. F. DAVIS, Secretary, Faculty of Anæsthetists, Royal College of Surgeons, Lincoln's Inn-fields, London, W.C.2, by 12th September, 1956.

THE WRIGHT-FLEMING INSTITUTE OF MICROBIOLOGY, ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, London, W.2. Applications are invited from Medical or Science graduates for the BOOTS RESEARCH FELLOWSHIP IN MICROBIOLOGY. Salary range £800–£1000 p.a. with superannuation under the F.S.S.U. Some experience in tissue culture and virology is desirable.

Applications, stating age, qualifications and previous experience, together with the names of 3 persons to whom reference may be made, should be addressed to the Secretary not later than Saturday, 8th September, 1956.

Hospital Services : Senior Appointments

BIRMINGHAM. ROYAL ORTHOPÆDIC HOSPITAL. (242 Beds.) Whole-time Locum Tenens ASSISTANT ORTHOPÆDIC SURGEON (Senior Hospital Medical Officer). Duties also at associated hospitals and clinics. Vacant minimum 4 months. Salary 31½ guineas per week.

Applications to Senior Administrative Medical Officer, 10, Augustus-road, Birmingham, 15.

BRISTOL. SOUTH-WESTERN REGIONAL HOSPITAL BOARD. ST. LAWRENCE'S HOSPITAL, BODMIN, and HORTON ROAD AND CONEY HILL HOSPITALS, GLOUCESTER. Applications are invited for 2 whole-time appointments of CONSULTANT PSYCHIATRIST, 1 to the West Cornwall Clinical Area with duties mainly at St. Lawrence's Hospital, Bodmin, and the other to the North Gloucestershire Clinical Area with duties mainly at Horton Road and Coney Hill Hospitals, Gloucester. Applicants must possess a higher qualification. Facilities for outpatients' clinic work exist in the North Gloucestershire Clinical Area. Residential accommodation is available for a married man at St. Lawrence's Hospital.

Applications (12 copies), stating date of birth, qualifications, and experience, together with the names and addresses of 2 referees, should be sent to the Secretary of the Regional Hospital Board, 27, Tyndalls Park-road, Bristol, 8, not later than 15th September, 1956.

BRISTOL. SOUTH-WESTERN REGIONAL HOSPITAL BOARD. Locum CONSULTANT OBSTETRICIAN AND GYNÆCOLOGIST required to 9th September, 1956.

Applications, giving qualifications and experience, and names of 2 referees, to the Secretary of the Regional Hospital Board, 27, Tyndalls Park-road, Bristol, 8, immediately.

COLCHESTER. ESSEX COUNTY HOSPITAL. Locum RADIOLOGIST (Consultant or Senior Hospital Medical Officer grade) required immediately for a period up to 6 weeks, for duties at hospitals in the Colchester Group.

Applications to Group Secretary, Colchester Hospital Management Committee, 14, Pope's-lane, Colchester, Essex.

GLOUCESTER. BARNWOOD HOUSE REGISTERED HOSPITAL (outside the National Health Service). Applications are invited for the post of DEPUTY MEDICAL SUPERINTENDENT. Candidates should possess the D.P.M., and, if possible, the M.R.C.P. The successful candidate will be expected to take an active part in the research work of the Hospital, in addition to routine medical duties. Salary (with emoluments) according to experience and qualifications. Pension scheme.

Applications, together with names of personal referees, and stating experience, present salary and nationality, to be sent to the Medical Superintendent before 16th September, 1956.

LIVERPOOL REGIONAL HOSPITAL BOARD. WARRINGTON GROUP. Applications are invited for the post of Whole-time SENIOR CASUALTY OFFICER in the above Group with duties mainly at Warrington Infirmary. Applicants should possess a higher qualification in surgery. The successful candidate will be required to take charge of the Casualty Department and undertake certain duties in the Orthopædic Department. The appointment will be for a period not exceeding 4 years. Salary determined by age and experience within the range £1475–£2025.

Forms of application from, and to be returned to, Dr. T. Lloyd Hughes, Senior Administrative Medical Officer, Liverpool Regional Hospital Board, 15, James-street, Liverpool, 2, to be received not later than 15th September, 1956.

VINCENT COLLINGE, Secretary to the Board.

LANCASTER MOOR HOSPITAL, Lancaster. (Regional MENTAL HOSPITAL.) Locum ASSISTANT PSYCHIATRIST (Senior Hospital Medical Officer) required immediately for several weeks. Previous psychiatric experience essential. Salary according to national scale and at present 31½ guineas per week, less residential charges. Accommodation for single person only.

Apply Medical Superintendent.

NEWCASTLE REGIONAL HOSPITAL BOARD. GATESHEAD. DISTRICT HOSPITAL MANAGEMENT COMMITTEE AREA. (Main hospitals: Queen Elizabeth (176 Beds), Bensham General (230 Beds), Dunston Hill (300 Beds).) CONSULTANT ANÆSTHETIST, whole-time or maximum part-time for 9 notional half-days per week.

Applications, with names and addresses of 3 referees, to Senior Administrative Medical Officer, Walker Gate Hospital, Benfield-road, Newcastle upon Tyne, 6, within 28 days.

NEWCASTLE REGIONAL HOSPITAL BOARD. TEESSIDE HOSPITAL MANAGEMENT COMMITTEE. (Population 350,000.) **STOCKTON AND THORNABY HOSPITAL.** (130 Beds.) SENIOR CASUALTY OFFICER (whole-time). Duration of tenure of post not exceeding 4 years. The Senior Casualty Officer will be required, subject to the supervision of the Senior Surgeon to General Surgical Clinic No. 3 and the Senior Orthopædic Surgeon, to organise the work of the busy Casualty Department. The Senior Casualty Officer must reside near the Stockton and Thornaby Hospital. Further particulars may be obtained from the Senior Surgeon, General Surgical Clinic No. 3 at the Stockton and Thornaby Hospital, Stockton-on-Tees.

Applications, with names and addresses of 3 referees, to be forwarded to Deputy Senior Administrative Medical Officer, Newcastle Regional Hospital Board, Walker Gate Hospital, Benfield-road, Newcastle upon Tyne, 6, within 28 days.

OXFORD REGIONAL HOSPITAL BOARD. Consultant in E.N.T. Surgery (part-time, for 8 sessions a week) to the High Wycombe/Aylesbury Area Department. Duties mainly at High Wycombe and Amersham. The successful candidate must reside in the area. Applicants should have had wide experience in the specialty and hold the F.R.C.S. or equivalent.

Applications (10 copies), stating age, qualifications, experience, and the names of 3 referees, should reach the Secretary, 43, Banbury-road, Oxford, by 29th September, 1956.

SHEFFIELD REGIONAL HOSPITAL BOARD. Whole-time ASSISTANT RADIOLOGIST for Derbyshire Royal Infirmary to work under the direction of the Consultant Radiologist-in-charge. Candidates should possess a Diploma in Radiology. Salary scale £1575–£50–£2025.

Application forms and further details from Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Old Fulwood-road, Sheffield, 10. Forms to be returned by 15th September, 1956.

SHEFFIELD REGIONAL HOSPITAL BOARD. Whole-time CONSULTANT PATHOLOGIST required based on Scunthorpe and District War Memorial Hospital. Appointee to commence on or after 1st January, 1957.

Application forms and further details from Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Old Fulwood-road, Sheffield, 10. Forms to be returned by 22nd September, 1956.

SHEFFIELD REGIONAL HOSPITAL BOARD. Whole-time CONSULTANT PATHOLOGIST required based on Grimsby General Hospital. Duties will involve responsibility for public health and hospital bacteriology for the Grimsby area and considerable experience in these is essential. Some experience of morbid anatomy will also be required. Appointment to commence in January, 1957.

Application forms and further details from Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Old Fulwood-road, Sheffield, 10. Forms to be returned by 22nd September, 1956.

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD requires Whole-time ASSISTANT PSYCHIATRIST (Senior Hospital Medical Officer grade) to work at The Old Manor Hospital, Salisbury, under the direction of the Physician-Superintendent of the Knowle Group. Candidates should possess D.P.M. and have experience of both inpatient and outpatient work in psychiatry. There is a house available at a reasonable rental.

Applications by letter (5 copies), giving date of birth, qualifications, experience, names of 3 referees, to the Secretary (S.1), South West Metropolitan Regional Hospital Board, 11A, Portland-place, W.1, by 22nd September, 1956. Applicants may visit Hospital by local arrangement.

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD requires Whole-time CONSULTANT PSYCHIATRIST at Horton Hospital, Epsom, Surrey, a large mental hospital of 1635 Beds, of which 1550 are at present occupied and which provides all modern methods of psychiatric treatment. Outpatient clinics are operated at certain London hospitals. Candidates should possess D.P.M. and preferably a higher medical qualification and have wide experience of psychiatry in all its branches. Residential accommodation is available at present for single persons only.

Applications by letter (5 copies), giving date of birth, qualifications, experience, names of 3 referees, to Secretary (S.1), South West Metropolitan Regional Hospital Board, 11A, Portland-place, W.1, by 22nd September, 1956. Applicants may visit Hospital by local arrangement.

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD requires Whole-time CONSULTANT PSYCHIATRIST at West Park Hospital, Epsom, Surrey. Candidates should possess D.P.M. and a higher medical qualification, and have wide knowledge of both psychiatry and general medicine.

Applications by letter (5 copies), giving date of birth, qualifications, experience, names of 3 referees, to Secretary (S.1), South West Metropolitan Regional Hospital Board, 11A, Portland-place, W.1, by 22nd September, 1956. Applicants may visit Hospital by local arrangement.

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD requires Part-time CONSULTANT E.N.T. SURGEON (1 half-day per week) for the Epsom (Surrey) Group. Duties mainly at Cobham and District Hospital.

Applications by letter (5 copies), giving date of birth, qualifications, experience, names of 3 referees, to Secretary (S.1), South West Metropolitan Regional Hospital Board, 11A, Portland-place, W.1, by 22nd September, 1956. Applicants may visit Hospital by local arrangement.

SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD requires Part-time CONSULTANT RADIOLOGIST (3 half-days per week) for the St. Helier (Surrey) Group. Candidates must have D.M.R. and wide experience in radiology.

Applications by letter (5 copies), giving date of birth, qualifications, experience, names of 3 referees, to Secretary (S.1), South West Metropolitan Regional Hospital Board, 11A, Portland-place, W.1, by 22nd September, 1956. Applicants may visit hospitals by local arrangement.

SOUTH EAST METROPOLITAN REGIONAL HOSPITAL BOARD. Applications are invited for an appointment as Part-time CONSULTANT GENERAL SURGEON for 9 notional half-days a week in the Canterbury, Isle of Thanet, and St. Augustine's Groups of hospitals. The successful candidate will be required to reside in the Canterbury area. Candidates must have had wide experience in general surgery, and be Fellows of a Royal College of Surgeons. Applicants may visit the hospitals concerned.

Apply, stating nationality, age, sex, qualifications, and experience, including details of present appointment and of war service, together with the names and addresses of 3 referees, to the Secretary, Advisory Appointments Committee, South East Metropolitan Regional Hospital Board, 11, Portland-place, W.1, not later than 15th September, 1956.

SOUTH EAST METROPOLITAN REGIONAL HOSPITAL BOARD. Applications are invited for an appointment as Part-time CONSULTANT GENERAL SURGEON for 9 notional half-days a week in the South East Kent Group of hospitals. The successful candidate will be required to reside in the area. General surgical experience is essential. Special training and experience in urology would be an asset for candidates, who must be Fellows of a Royal College of Surgeons. The appointment will be in accordance with the terms and conditions of service of hospital medical and dental staffs (England and Wales). Candidates may visit the hospitals concerned.

Apply, stating nationality, age, sex, qualifications, and experience, including details of present appointment and war service, together with the names and addresses of 3 referees, to the Secretary, Advisory Appointments Committee, South East Metropolitan Regional Hospital Board, 11, Portland-place, W.1, not later than 15th September, 1956.

WELSH REGIONAL HOSPITAL BOARD. Whole-time CONSULTANT PSYCHIATRIST, Pen-y-Val Hospital and Maindiff Court Early Treatment Unit, Abergavenny (1336 Beds). Applicants must have had wide experience in psychiatry, hold a Diploma in Psychological Medicine, be competent to take clinical responsibility, and to participate in the work of the associated outpatient clinics and domiciliary consultant service in the area served by the Hospital. Non-resident.

Application (12 copies), naming 3 referees, to Senior Administrative Medical Officer, Temple of Peace, Cathays Park, Cardiff, within 21 days.

NORTHERN IRELAND HOSPITALS AUTHORITY. Applications are invited for the whole-time post of PSYCHIATRIST, in the grade of Senior Hospital Medical Officer, at Purdysburn Hospital, Belfast. The terms, conditions of service and remuneration will be in accordance with the Authority's application of the Spens report to Northern Ireland.

Applications to be made on a form obtainable (with further particulars) from the Secretary, Northern Ireland Hospitals Authority, 44–46, Queen-street, Belfast, and to be returned not later than 31st August, 1956.

CANADA. UNIVERSITY OF ALBERTA HOSPITAL, EDMONTON, ALBERTA, CANADA, requires ASSISTANT SUPERINTENDENT (medical). Starting salary $7800 p.a. Annual increments of $500 to $9800.

Give full particulars, name referees, and enclose photograph first letter, to A. C. MCGUGAN, M.D., Superintendent.

University of Alberta Hospital, Edmonton, Alberta, Canada.

VIRGINIA, U.S.A. Progressive state mental hospital (4600 Beds) in Virginia expanding staff invites applications for PHYSICIANS at all levels, psychiatric experience desirable but not necessary. Salary from $8040 (approximately £2750). All modern methods of treatments. Opportunities for research. Good retirement plan.

Apply to BRIAN C. CAMPDEN-MAIN, M.R.C.S. Send full résumé in first letter. Box 271, Petersburg, Virginia, U.S.A.

Hospital Services : Junior Appointments

BROMPTON HOSPITAL, S.W.3. Applications invited for the following posts :—

RESIDENT SURGICAL OFFICER (post graded as Senior House Officer or Registrar, according to qualifications and experience), for which there are 2 vacancies, for 6 months from 1st November, 1956, with eligibility for re-appointment. Candidates must have held a resident hospital appointment.

RESIDENT HOUSE PHYSICIAN (4 vacancies). 3 vacancies for 6 months from 1st November, 1956. Duties include work in Outpatient Department and wards. 1 vacancy for 9 months from 1st November, 1956. The first 3 months at Brompton Hospital Sanatorium, Frimley, and the following 6 months at the Hospital in London covering work in Outpatient Department and wards. Salary at the rate of £525 p.a.

Applications, stating age, qualifications with dates, nationality and appointments held, together with copies of testimonials, by 8th September, 1956, to—

KENNETH A. F. MILES, House Governor.

BROMPTON HOSPITAL, S.W.3. Applications invited for post of MEDICAL REGISTRAR (whole-time). Salary within the Registrar grade. The appointment is for 1 year, commencing 1st October, 1956, with eligibility for reappointment. Candidates must hold the M.R.C.P. Diploma or the M.B. of a University.

Applications, stating age, qualifications with dates nationality and appointments held, together with copies of testimonials, by 8th September, to KENNETH A. F. MILES, House Governor.

BATTERSEA GENERAL HOSPITAL, Battersea Park, S.W.11. HOUSE PHYSICIAN (House Office grade), resident, not pre-registration.

Apply Hospital Secretary, enclosing copies of 2 recent testimonials.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11. HOUSE PHYSICIAN (resident), vacant 15th September, 1956. Open to registered practitioners and pre-registration candidates.

Apply Hospital Secretary, enclosing copies of 3 recent testimonials, by 29th August, 1956.

CENTRAL MIDDLESEX HOSPITAL, Park Royal, N.W.10. NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD. SENIOR REGISTRAR (whole-time), non-resident, Orthopædic and Traumatic Department at above Hospital. Duties include teaching and visiting convalescent hospital and area orthopædic clinics. Opportunity of gaining at least 12 months experience of long-stay orthopædic cases at Heatherwood Orthopædic Hospital, Ascot. Applicants should be F.R.C.S. Post now vacant. Hospital may be visited by direct appointment.

Application forms obtainable from, and returnable to, Secretary, Central Middlesex Group Hospital Management Committee, Park Royal, N.W.10, by 8th September, 1956.

CORRECTION

CENTRAL MIDDLESEX HOSPITAL, Park Royal, N.W.10. NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD. SURGICAL REGISTRAR. Vacancy date should read "1st December." Full details shown in August 18 issue page 37.

CONNAUGHT HOSPITAL, Walthamstow, E.17. (118 Beds.) Applications are invited for the post of SECOND CASUALTY OFFICER with duties in the Department of Orthopædic and Traumatic Surgery (Senior House Officer grade). Recognised for F.R.C.S. Salary £745 p.a., less £150 p.a. for board, lodging, &c.

Applications, with full details and copies of 2 recent testimonials, should be sent immediately to Secretary, Hospital Management Committee, Forest Group, Langthorne-road, E.11.

DULWICH HOSPITAL, East Dulwich-grove, London, S.E.22. Applications invited for appointment as SENIOR HOUSE OFFICER (Anæsthetist), vacant from 17th September, 1956. Recognised for F.F.A.R.C.S. and D.A. ; the Hospital is associated with King's College Hospital Medical School for undergraduate teaching purposes.

Applications, stating age, qualifications and experience, enclosing copy testimonials or names of 2 referees, to the Group Secretary, Camberwell Hospital Management Committee, Dulwich Hospital, East Dulwich-grove, S.E.22. Last day for receipt of applications 5th September, 1956.

HAMMERSMITH HOSPITAL AND INSTITUTE OF OBSTETRICS AND GYNÆCOLOGY, Ducane-road, London, W.12. Locum REGISTRAR (non-resident) required for 1 month from 1st September.

Applications, stating age, qualifications, experience, names of 2 referees, to Secretary, Board of Governors, immediately.

HAMMERSMITH HOSPITAL AND POSTGRADUATE MEDICAL SCHOOL, Ducane-road, London, W.12. Whole-time NON-RESIDENT REGISTRAR (radiodiagnostic) required 1st October.

Applications, stating age, qualifications, experience, names of 2 referees, to Secretary, Board of Governors, by 8th September.

HAMMERSMITH HOSPITAL AND INSTITUTES OF OBSTETRICS AND CHILD HEALTH, Ducane-road, London, W.12. RESIDENT PÆDIATRIC REGISTRAR required. Post vacant 23rd October. Duties involve care of new-born babies in Maternity Department and Premature Baby Unit.

Applications, stating age, qualifications, experience, names of 2 referees, to Secretary, Board of Governors, by 8th September.

HAMPSTEAD GENERAL HOSPITAL, Haverstock Hill, N.W.3. (ROYAL FREE HOSPITAL GROUP). Applications are invited for the following pre-registration posts :—

HOUSE PHYSICIAN.
HOUSE SURGEON.

Both vacant 1st October, 1956, and tenable for a period of 6 months.

Application forms may be obtained from the Secretary, to whom they should be returned, together with copies of 3 recent testimonials, by 5th September, 1956.

HAMPSTEAD GENERAL HOSPITAL, Haverstock Hill, N.W.3. (ROYAL FREE HOSPITAL GROUP). Applications are invited from registered medical practitioners for the post of RESIDENT CASUALTY OFFICER (graded as Senior House Officer). Salary £745 p.a. Tenable for a period of 6 months at the Main Outpatients Department, Bayham-street, N.W.1.

Application forms may be obtained from the Secretary, to whom they should be returned, together with copies of 3 recent testimonials, by 5th September, 1956.

HITHER GREEN HOSPITAL, London, S.E.13. Lewisham GROUP HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the post of SENIOR HOUSE OFFICER with duties in Infectious Diseases, General Medicine and E.N.T. Unit. Vacant 3rd October, 1956. The appointment is tenable for 1 year and may be either fully resident or resident only when on duty.

Applications, stating age, qualifications and experience, with copy testimonials or names of referees, to Group Secretary at Lewisham Hospital, S.E.13.

HENDON DISTRICT HOSPITAL, 357, Hendon-way. Hendon, N.W.4. Applications are invited from General Medical Practitioners, whose practices are within the Borough of Hendon, for appointment to the Medical Staff at above Hospital. Members of the Medical Staff have access to the general and private beds for the admission and treatment of their own patients and to such outpatient facilities as at present exist or can be provided by existing staff and accommodation. They may be required to undertake on roster duties the treatment of patients admitted under emergency arrangements who are not patients of other members of the staff. Further details may be obtained from the Hon. Medical Superintendent of the Hospital.

Applications should be addressed to the Group Secretary, Hendon Group Hospital Management Committee, Edgware General Hospital, Edgware, not later than 8th September, 1956.

LAMBETH HOSPITAL, Kennington, S.E.11. Applications are invited from pre-registration and registered medical practitioners for the position of RESIDENT HOUSE PHYSICIAN falling vacant on 3rd October, 1956. The successful applicant will be required to carry out a fortnight's locum duty starting on 20th September, 1956.

Application forms from the Physician-Superintendent. A stamped addressed envelope should be enclosed.

LAMBETH HOSPITAL, Brook-drive, S.E.11. South WEST METROPOLITAN REGIONAL HOSPITAL BOARD. Applications are invited for the post of MEDICAL REGISTRAR vacant in November, 1956. The appointment will be for 1 year in the first instance. Preference will be given to applicants having a higher qualification in medicine.

Forms of application (enclosing stamped addressed envelope) from the Secretary, to whom completed forms should be returned not later than 8th September, 1956. Canvassing will disqualify, but candidates are invited to visit the Hospital.

LONDON CHEST HOSPITAL. Hospital for Diseases of THE CHEST. RESIDENT HOUSE SURGEON required at the Hospital's Country Branch, near Hitchin and Letchworth, Herts. The post is graded as Senior House Officer and the appointment, which provides excellent opportunities for experience in thoracic surgery, is for 6 months.

Applications from registered medical practitioners, stating date of birth, qualifications with dates, and previous appointments held, with copies of 3 testimonials, to be forwarded at once to THOMAS BROWN, House Governor.

London Chest Hospital, E.2.

MANOR HOUSE HOSPITAL, Golders Green, N.W.11 (exempted from National Health Service). Required, RESIDENT SURGICAL OFFICER (Male). Salary £745 p.a., less £130 p.a. for emoluments. 6 months appointment, renewable.

Applications, stating age, nationality, qualifications, and surgical or orthopædic experience, with copies of 3 recent testimonials, to the Secretary, Mr. W. F. PENDRILL.

MILE END HOSPITAL, Bancroft-road, London, E.1. (484 Beds.) HOUSE PHYSICIAN (pre- or post-registration). Post vacant 22nd September, 1956.

Application forms, obtainable from Physician-Superintendent, should be returned by 7th September, 1956, with copies of not more than 3 testimonials.

NORTH EAST METROPOLITAN REGIONAL HOSPITAL BOARD.

ANÆSTHETIC REGISTRAR (resident), St. Andrew's Hospital, Bow, E.3. Recognised for F.F.A.R.C.S. and D.A.

ANÆSTHETIC REGISTRAR (resident or non-resident), King George Hospital, Ilford, Essex. Recognised for F.F.A.R.C.S and D.A.

ANÆSTHETIC REGISTRAR (non-resident), Whipps Cross Hospital, Leytonstone, E.11. Recognised for F.F.A.R.C.S. and D.A.

REGISTRAR in Thoracic Surgery (non-resident), North Middlesex Hospital and Annexes, Edmonton, N.18. Offers experience in all types of cardiac, œsophageal, tuberculous and non-tuberculous thoracic surgery.

SURGICAL REGISTRAR (resident), Tilbury and Riverside General Hospital, Tilbury, Essex. Recognised for F.R.C.S. Active Surgical Unit and busy Outpatient Department in all specialties.

SURGICAL REGISTRAR (resident or non-resident), Bethnal Green Hospital, E.2. Recognised for F.R.C.S.

SURGICAL REGISTRAR (non-resident), Whipps Cross Hospital, Leytonstone, E.11. Recognised for F.R.C.S.

REGISTRAR in General Medicine and Pædiatrics (resident), St. John's and Chelmsford and Essex Hospitals, Chelmsford, Essex. Duties in Group Pædiatric, Premature Baby and Neonatal Departments and in the general medical wards of both Hospitals.

MEDICAL REGISTRAR (resident or non-resident), St. Clement's Hospital, Bow-road, E.3.

Appointments subject to review after 1 year.

Application forms from Secretary, 11A, Portland-place, W.1, to be returned by 8th September, 1956.

NORWOOD HOSPITAL, S.E.19. Croydon Group Hospital MANAGEMENT COMMITTEE. CLINICAL ASSISTANTS—1 general surgery, 1 gynæcology. Each 1 session weekly at £175 p.a.

Detailed applications in writing, with names of 2 referees, to GEORGE A. PAINES, Group Secretary, Croydon Hospital Management Committee, General Hospital, London-road, Croydon, within 7 days of the publication of this advertisement.

NELSON HOSPITAL, Kingston-road, Merton, S.W.20. RESIDENT ANÆSTHETIST (Senior House Officer grade).

Applications, stating age, experience and qualifications, with copies of testimonials and the name of 1 referee, should be sent to the Group Secretary, St. Helier Hospital, Carshalton, Surrey.

PRINCESS BEATRICE HOSPITAL, Earls Court, S.W.5. Applications are invited from fully registered medical practitioners for the post of HOUSE PHYSICIAN for 6 months (Junior House Officer grade), resident.

Applications immediately with 3 testimonials to the House Governor.

NEW END HOSPITAL, London, N.W.3. Applications are invited for the following positions :—

HOUSE PHYSICIAN (general medicine). Preference will be given to pre-registration candidates.

HOUSE SURGEON (general surgery) 2 posts. Preference will be given to pre-registration candidates for 1 position.

Application forms obtainable from Group Secretary, 46, Cholmeley-park, N.6, and returnable to Surgeon-Superintendent, New End Hospital, by 4th September, 1956.

POPLAR HOSPITAL, East India Dock-road, E.14. SENIOR HOUSE OFFICER required at above Hospital. Duties are mainly in connection with the Receiving Room and Casualty Departments. Preference will be given to a candidate who is preparing for a higher qualification.

Applications to the Group Secretary, Bow Group Hospital Management Committee, 2A, Bow-road, E.3.

QUEEN MARY'S HOSPITAL FOR THE EAST END, West Ham-lane, Stratford, London, E.15. JUNIOR CASUALTY OFFICER (House Officer third post) required immediately for 6 months.

Applications, with copies of testimonials, to Group Secretary, West Ham Group Hospital Management Committee, Stratford, E.15, by 28th August, 1956.

ROYAL FREE HOSPITAL, W.C.1. Applications are invited for the post of REGISTRAR to the X-ray Department at the Royal Free Hospital. The post is non-resident for 1 year in the first instance. Duties to commence 1st October, 1956. Candidates should be registered medical practitioners of not more than 10 years standing and should hold the D.M.R.(D.).

Formal applications, giving details of experience, &c., together with 3 testimonials, should be sent to the Secretary, Royal Free Hospital, Gray's Inn-road, W.C.1, not later than 1st September, 1956.

ROYAL FREE HOSPITAL GROUP, Dental Department. Applications are invited for the appointment of a Full-time RESIDENT DENTAL REGISTRAR to work under the general supervision of the visiting Consultant Dental Surgeons. Duties would be of a varied nature, including opportunities for surgical theatre work. The appointment is for 1 year in the first instance, duties to commence as soon as possible. Salary and conditions of service in accordance with the terms laid down by the Ministry of Health.

Application should be made, stating qualifications, age and experience, and giving the names of 3 referees, to the Secretary to the Board of Governors, Royal Free Hospital, Gray's Inn-road, W.C.1, not later than 15th September, 1956.

ROYAL NORTHERN HOSPITAL, Holloway, N.7. Applications are invited for the post of CASUALTY OFFICER (Senior House Officer grade), with duties in the E.N.T. department, vacant 17th September, 1956. Post recognised for F.R.C.S.

Applications to be sent to the Hospital Secretary by 4th September, 1956.

ROYAL NORTHERN HOSPITAL, N.7. North West METROPOLITAN REGIONAL HOSPITAL BOARD. REGISTRAR in Radiology (X-ray Diagnostic Department) required at above Hospital. Candidates should possess D.M.R.D. Hospital may be visited by direct appointment.

Application forms obtainable from, and returnable to, the Secretary, Royal Northern Hospital, Holloway-road, London, N.7, by 4th September. 1956.

SOUTH LONDON HOSPITAL FOR WOMEN AND CHILDREN, Clapham Common, S.W.4. REGISTRAR in Pathology (full-time). Applications are invited from Women medical practitioners who should have had experience of laboratory work. Canvassing will disqualify but candidates are not precluded from visiting the Hospital if they so desire.

Forms of application (enclosing stamped addressed envelope) from the Secretary, Lambeth Group Hospital Management Committee, Renfrew-road, S.E.11, to whom completed applications should be returned not later than 15th September, 1956.

ST. CHARLES' HOSPITAL, Ladbroke-grove, W.10. (581 Beds.) Applications are invited to fill the post of SENIOR HOUSE OFFICER (orthopædics, ophthalmology, plastics, E.N.T., &c.).

Applications, stating age, qualifications, experience, &c., together with names and addresses of 2 referees, to be forwarded to Hospital Secretary immediately.

ST. JAMES' HOSPITAL, Balham, London, S.W.12. SENIOR HOUSE OFFICER (orthopædic and trauma). Post recognised for F.R.C.S. Vacant 15th September.

Applications, stating age, qualifications, experience, and names of 2 referees, to Group Secretary, Wandsworth Hospital Group, at above address by 5th September. (42740.)

ST. NICHOLAS HOSPITAL, Plumstead, S.E.18. House OFFICER (Orthopædic, Fracture and Casualty Departments), vacant now. Recognised for F.R.C.S. 6 months resident post-registration appointment providing good general experience in a busy acute general hospital.

Apply to Group Secretary, Memorial Hospital, Woolwich, S.E.18.

ST. NICHOLAS HOSPITAL, Plumstead, S.E.18. House PHYSICIAN, vacant 3rd October, 1956. Approved for Pre-registration Service.

Apply to Group Secretary, Memorial Hospital, Woolwich, S.E.18.

ST. THOMAS'S HOSPITAL, London, S.E.1. Senior REGISTRAR to the Department of Physical Medicine for a period of 1 year in the first instance.

Applications, naming 2 referees, to the Clerk of the Governors by 7th September, 1956.

WANDSWORTH HOSPITAL GROUP. Locum Registrar (obstetrics and gynæcology) required from 21st September until permanent appointment made. Duties at St. James' Hospital and Weir Maternity Hospital.

Applications, giving full particulars, to Group Secretary, St. James' Hospital, S.W.12, by 8th September. (42739.)

WANDSWORTH HOSPITAL GROUP. South West METROPOLITAN REGIONAL HOSPITAL BOARD. REGISTRAR (obstetrics and gynæcology) in Group Maternity Unit. Post vacant 21st September. Recognised for M.R.C.O.G. Duties at St. James' Hospital and Weir Maternity Hospital.

Application forms obtainable from Group Secretary, St. James' Hospital, Balham, S.W.12, to be completed and returned by 8th September. (42738.)

WOOLWICH GROUP HOSPITAL MANAGEMENT COMMITTEE. SENIOR HOUSE OFFICERS (anæsthetics). 1 at St. Nicholas Hospital, Plumstead, and 1 at Memorial Hospital, Woolwich, vacant immediately. Both posts recognised for F.F.A.R.C.S. or D.A. and are for 6 months in the first instance and may be renewed.

Apply to Group Secretary, Memorial Hospital, Shooters Hill, Woolwich, S.E.18.

ABERDEEN GENERAL HOSPITALS BOARD OF MANAGEMENT. Applications are invited for the appointment of a HOUSE PHYSICIAN in the Skin and Dental Ward of the Aberdeen Royal Infirmary for a period of 6 months from 1st August, 1956, to 31st January, 1957. The post is a resident one. The appointment is approved as a pre-registration post and tenure for the prescribed period will count towards full registration on the Medical Register for provisionally registered practitioners.

Applications, with full details, and giving the names of 2 referees, should be lodged immediately with the Secretary, Aberdeen General Hospitals, P.O. Box No. 92, 62, Queen's-road, Aberdeen.

ALTON, HAMPSHIRE. LORD MAYOR TRELOAR ORTHOPÆDIC HOSPITAL. (340 Beds.) Applications are invited from SENIOR ORTHOPÆDIC REGISTRARS who desire a years experience in the same grade at a long-stay orthopædic hospital. Post includes attendance at peripheral clinics. Residence available.

Write to Secretary for application form.

ALTON, HAMPSHIRE. HENRY GAUVAIN HOSPITAL. Locum REGISTRAR (general surgery and orthopædics) required at the above Hospital early in September.

Applications as soon as possible to the Secretary, Henry Gauvain Hospital, Alton.

ALTRINCHAM GENERAL HOSPITAL AND ANNEXE. (130 Beds.) SENIOR HOUSE OFFICER (medical). This appointment is in a busy hospital and offers excellent opportunities of practical experience. Post vacant end of September.

Applications, together with 2 recent testimonials, to Group Secretary, North and Mid-Cheshire Hospital Management Committee, The Hospital, Sinderland-road, Altrincham, Cheshire.

AYR. GLENGALL MENTAL HOSPITAL. (710 Beds.) Applications are invited from qualified practitioners for post of Locum JUNIOR HOSPITAL MEDICAL OFFICER (resident or non-resident) at Glengall Mental Hospital, Ayr, as from 1st September, 1956. Salary in accordance with National Health Service conditions of service.

Applications, with copy testimonials, to be submitted to Medical Superintendent, Glengall Mental Hospital, Ayr.

BEDFORD (near). BROMHAM HOSPITAL. (434 Beds for mental defectives and 60 at Annexe near Sandy.) REGISTRAR in Psychiatry required (resident). Hospital may be visited by direct appointment with the Medical Superintendent (phone : Oakley 295).

Application forms obtainable from, and returnable to, Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton-road, Bedford, by 17th September, 1956.

BEDFORD GENERAL HOSPITAL. (439 Beds.) Locum ANÆSTHETIC REGISTRAR required 3 months commencing September or shorter period. Salary £17 10s. per week.

Applications and testimonials to Group Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton-road, Bedford.

BEDFORD GENERAL HOSPITAL. (439 Beds.) Senior HOUSE OFFICER in Medicine, now vacant, tenable for 12 months.

Applications, stating age, qualifications, experience, copies of 2 recent testimonials, to Group Secretary, Bedford Group Hospital Management Committee, 3, Kimbolton-road, Bedford.

BEXHILL. BEXHILL HOSPITAL. (62 Beds.) House SURGEON (resident) not pre-registration post. National scale of salary.

Apply to Hospital Administrator.

BEVERLEY, YORKSHIRE. WESTWOOD HOSPITAL. (229 Beds.) HOUSE PHYSICIAN (House Officer or Senior House Officer grading according to experience), vacant end of September. Pre-registration post but fully qualified practitioners may apply.

Applications to Group Secretary.

BEVERLEY, YORKSHIRE. WESTWOOD HOSPITAL. (229 Beds.) ORTHOPÆDIC HOUSE SURGEON (first, second, or third post). Married accommodation available. Offers good opportunity for general experience in busy acute general hospital. Approved pre-registration post. Fully qualified practitioners may apply. Recognised for F.R.C.S. Vacant now.

Apply Group Secretary.

BLACKBURN. QUEEN'S PARK HOSPITAL. (640 general beds.) SENIOR HOUSE OFFICER (medicine) required 4th October, for acute medical unit.

Apply to Secretary, Hospital Management Committee Office, Royal Infirmary, Blackburn.

BLACKBURN. ROYAL INFIRMARY. (262 acute beds.) BLACKBURN AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE. SENIOR HOUSE OFFICER (general surgery) required 29th September. Recognised for F.R.C.S.

Apply Secretary, Hospital Management Committee Office, Royal Infirmary, Blackburn.

BIRMINGHAM, 29. SELLY OAK HOSPITAL. (955 equipped beds.) SENIOR HOUSE OFFICER (anæsthetics), resident/non-resident. Residential charge £150 p.a.

Apply Medical Superintendent, with details of qualifications, experience, age and copies of 3 recent testimonials.

BIRMINGHAM, 9. LITTLE BROMWICH GENERAL HOSPITAL. HOUSE SURGEON (Male/Female). Post vacant 12th September, 1956. Recognised as pre-registration appointment.

Apply Physician-Superintendent with copies of 2 testimonials or names of referees.

BIRMINGHAM ACCIDENT HOSPITAL, Bath-row, BIRMINGHAM, 15. (215 Beds and 8 House Surgeons.) HOUSE SURGEONS (resident), vacant September. Recognised for purpose of Casualty by R.C.S. (Eng.). Teaching programme by Consultant staff. Appointment for 6 months, some of which may be spent, at applicant's request, in 42-Bedded Medical Research Council's Burns Unit.

Apply within 7 days of advertisement to Administrator, naming 2 referees.

BIRMINGHAM, 18. DUDLEY ROAD HOSPITAL. (780 Beds.) HOUSE SURGEON required. Recognised for pre-registration and F.R.C.S. Unit of approximately 85 adult and children's general surgical beds under control of 2 Consultant Surgeons.

Detailed applications, with copies of 3 recent testimonials, to Group Secretary.

BIRMINGHAM, 18. DUDLEY ROAD HOSPITAL. (780 Beds.) SENIOR HOUSE OFFICER (anæsthetics) required, resident. Recognised for D.A. and F.F.A.R.C.S. Extensive experience of anæsthetics not necessary. Duties include list and emergency work in general surgery, gynæcology, obstetrics, and E.N.T. at hospitals in Group. Vacant 21st October, 1956.

Detailed applications, with copies of 3 recent testimonials, to Group Secretary.

BIRMINGHAM. GROUP 25 SELLY OAK HOSPITAL MANAGEMENT COMMITTEE. SENIOR HOUSE OFFICER in Pathology (resident). Duties in emergency clinical pathology. Training in general pathology. Previous laboratory experience not necessary. Residential charge £167 p.a.

Details from Pathologist, Selly Oak Hospital, Birmingham, 29.

BIRMINGHAM REGIONAL HOSPITAL BOARD.

(1) **Birmingham (Dudley Road) Group, Dudley Road Hospital, Birmingham, 18**

REGISTRAR (E.N.T. surgery) required at Birmingham and Midland Ear and Throat Hospital (resident). Recognised for D.L.O. and F.R.C.S.

(2) **South Warwickshire Group 14, 50, Holly-walk, Leamington Spa**

REGISTRAR (psychiatry) for Coventry, Nuneaton and Rugby Hospitals. Outpatients (adults and children). (7 sessions) : 4 inpatients sessions at Central Hospital, near Warwick, with Neurosis Unit, E.E.G. Department, Occupational Therapy, and all modern treatments. House or flat at Central Hospital.

(3) **Dudley Stourbridge Group, The Guest Hospital, Dudley**

REGISTRAR (general surgery) at Guest Hospital (154 Beds). Experience specialty essential. Higher qualification desirable. Resident.

(4) **Shrewsbury Group 15, Royal Salop Infirmary, Shrewsbury**

REGISTRAR (psychiatry) at Shelton Mental Hospital. Whole-time. Previous experience general medicine desirable.

Applications (15 copies), stating name, age, nationality, qualifications, present and previous appointments and details of 3 referees, to Secretary, Regional Hospital Board, 10, Augustus-road, Birmingham, 15, by 3rd September, 1956.

BIRMINGHAM (SANATORIA) GROUP HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the post of JUNIOR HOSPITAL MEDICAL OFFICER at West Heath Hospital, Rednal-road, Birmingham, 31 (210 tuberculosis with observation beds). The successful applicant will reside at the above Hospital (accommodation for single person only), and will be offered facilities for undertaking duties at the Birmingham Chest Clinic, Great Charles-street, Birmingham, 3.

Applications, stating age, qualifications, training and experience, together with copies of 3 recent testimonials, should be addressed to the Group Secretary, Birmingham (Sanatoria) Group Hospital Management Committee, Yardley Green Hospital, Birmingham, 9.

BIRMINGHAM. THE UNITED BIRMINGHAM HOS-PITALS AND THE BIRMINGHAM REGIONAL HOSPITAL BOARD. Applications are invited for the joint whole-time appointment of NON-RESIDENT REGISTRAR in Diagnostic Radiology (Senior Registrar grade). The duties will be apportioned at 5 sessions in the Teaching Hospital and 6 sessions in the Dudley Road Hospital Group, mainly at Dudley Road Hospital. Candidates must be registered medical practitioners, have had previous experience in the specialty and possess a Diploma in Radiology.

Forms of application may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Birmingham, 15, and should be returned by 8th September, 1956.

BIRMINGHAM. THE UNITED BIRMINGHAM HOS-PITALS. QUEEN ELIZABETH HOSPITAL. Applications are invited for the post of SURGICAL REGISTRAR (Registrar grade). This post is designed to give experience in neurosurgery and plastic surgery and would be suitable for trainees in general surgery, orthopædic, and other branches of surgery. The appointment is tenable for 6 months in the first instance with the possibility of re-appointment for a further period of time. The successful candidate may be required to be resident.

Application forms may be obtained from the Secretary, United Birmingham Hospitals, Queen Elizabeth Hospital, Edgbaston, Birmingham, 15, and should be returned to him by 8th September, 1956.

BIRMINGHAM. THE SKIN HOSPITAL. Inpatients' DEPARTMENT, George-road, BIRMINGHAM, 15. SENIOR HOUSE OFFICER or HOUSE OFFICER according to experience. Modern well-equipped Inpatients' Departm[illegible], providing facilities for study of skin diseases. Required to [illegible]t Consultant at outpatient clinics.

Applications, with copies of 2 recent testimonials, to Group Secretary, Dudley Road Hospital, Birmingham, 18.

BIRMINGHAM, 15. ROYAL ORTHOPÆDIC HOSPITAL. (Recognised by Royal College of Surgeons. 336 Beds for long and short term orthopædic cases (non-traumatic) and extensive outpatient services.) SENIOR HOUSE OFFICER, registered medical practitioner preferably with orthopædic experience. Residential charge £150 p.a.

Applications, with testimonials or names of referees, to Administrator.

BLACKPOOL. VICTORIA HOSPITAL. (348 Beds.) HOUSE OFFICER (orthopædic and casualty). Pre-registration post recognised for F.R.C.S. offering sound experience in a progressing department under 2 Consultant Orthopædic Surgeons. Post available from 1st October, 1956.

Applications, stating age, experience (if any), and giving the names and addresses of 2 referees, should be sent to the Hospital Secretary.

BOSTON. GENERAL HOSPITAL. (80 Beds.) **Sheffield** REGIONAL HOSPITAL BOARD. Whole-time RESIDENT REGISTRAR (obstetrics and gynæcology) required with relief duties in the Casualty Department. Appointment for 1 year in first instance.

Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood-road, Sheffield, by 3rd September, 1956, giving age, nationality, qualifications, present and previous appointments with dates, naming 3 referees.

BOURNEMOUTH. ROYAL VICTORIA HOSPITAL. (494 Beds.) BOURNEMOUTH AND EAST DORSET HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the appointment of SENIOR HOUSE OFFICER (resident), orthopædic and casualty combined. The post which is now vacant is recognised for the F.R.C.S. examination and is normally tenable for 12 months.

Applications to the Hospital Secretary.

BRAINTREE, ESSEX. BLACK NOTLEY HOSPITAL. Locum REGISTRAR in Orthopædic and Renal Tuberculosis required from 1st to 28th October, 1956.

Applications to the Group Secretary, Colchester Hospital Management Committee, 14, Pope's-lane, Colchester, Essex.

BRAINTREE, ESSEX. BLACK NOTLEY HOSPITAL. (516 Beds.) Applications invited for post of HOUSE OFFICER (orthopædic surgery). Duties include care of cases from London Hospital Orthopædic Department. First, second, third or pre-registration post; tenable for 6 months. Recognised for F.R.C.S.

Applications, with copies of 3 testimonials, to Group Secretary, Colchester Hospital Management Committee, 14, Pope's-lane, Colchester, Essex.

BRIGHTON AND LEWES HOSPITAL MANAGEMENT COMMITTEE GROUP HOSPITALS. (78 Beds.) SENIOR HOUSE OFFICER for duties in the E.N.T. Department of the above Group. Recognised for F.R.C.S. and D.L.O.

Applications, stating usual particulars, together with the names of 2 referees, to be sent to the Administrative Officer, Royal Sussex County Hospital, Brighton, 7.

BRIGHTON. BEVENDEAN HOSPITAL, Bear-road, BRIGHTON, 7. (165 Beds.) Applications are invited for the post of JUNIOR HOSPITAL MEDICAL OFFICER at the above Hospital for chest diseases. Salary £775–£50–£1075 p.a.

Applications, stating age, qualifications and nationality, previous posts held, together with the names of 2 referees, should be sent to the Administrative Officer, Brighton General Hospital, Elm-grove, Brighton, 7, as soon as possible.

BRIGHTON. ROYAL SUSSEX COUNTY HOSPITAL. (312 Beds.) CASUALTY HOUSE SURGEON (1 of 3). Duties include work in Orthopædic and Traumatic Unit. Required early September. Recognised for pre-registration and F.R.C.S.

Applications, stating usual particulars and naming 2 referees, to the Administrative Officer, Royal Sussex County Hospital, Brighton, 7.

BURTON-ON-TRENT. THE GENERAL HOSPITAL. HOUSE SURGEON required at the above Hospital. Post recognised for pre-registration purposes.

Apply Group Secretary.

BRISTOL. THE BOARD OF GOVERNORS OF THE UNITED BRISTOL HOSPITALS AND THE SOUTH-WESTERN REGIONAL HOSPITAL BOARD. Applications are invited by the above Boards from registered medical practitioners for the joint appointment of REGISTRAR in Anæsthetics. This post becomes vacant on 1st November, 1956. The appointment will be held for 1 year in the first instance, and be renewable for a further year. The successful candidate will be appointed to work for the first year mainly at Southmead Hospital, Bristol, but may also be required to undertake duties at other hospitals in the Group. Southmead Hospital is recognised for the purpose of taking the examination for the Fellowship of the Faculty of Anæsthetists.

Applications, stating date of birth, qualifications and experience, together with the names and addresses of 2 referees, should be sent to the Secretary of the Regional Hospital Board, 27, Tyndalls Park-road, Bristol, 8, not later than 10th September, 1956.

BRISTOL. SOUTHMEAD GENERAL HOSPITAL GROUP MANAGEMENT COMMITTEE. Required at Snowdon Road Hospital (300 Beds—chronic sick, general medical cases, tuberculosis and dermatology) SENIOR HOUSE OFFICER (medical) for 6 months or 12 months commencing 12th September, 1956.

Immediate applications to be made to the Group Secretary, Southmead Hospital, Bristol.

BRISTOL. COSSHAM/FRENCHAY HOSPITAL MAN-AGEMENT COMMITTEE. SENIOR HOUSE OFFICER required in the Thoracic Surgery Department, which is the Regional Thoracic Surgery Centre (120 Beds) for the South West.

Applications, with full particulars, should be addressed to the Group Secretary, Frenchay Hospital, Bristol, quoting "Thoracic."

BRISTOL. COSSHAM/FRENCHAY HOSPITAL MAN-AGEMENT COMMITTEE. FRENCHAY HOSPITAL. (542 staffed beds, expanding.) Applications are invited for the post of SENIOR HOUSE OFFICER in the Regional Department of Neurosurgery. Vacant end of September. This post offers useful surgical experience and the opportunity of gaining a working knowledge of neurological diagnosis. Recognised for F.R.C.S.

Applications to the Secretary, Frenchay Hospital, quoting "N.S.F." 2 referees required.

BURY. FAIRFIELD GENERAL HOSPITAL. Applications are invited for the post of JUNIOR HOSPITAL MEDICAL OFFICER (psychiatry). The appointment is for 1 year in the first instance, subject to renewal annually. This post is recognised for the D.P.M. for 12 months.

Applications, with full details of age, qualifications and experience, together with names of 2 referees, should be submitted to— H. WILKINSON, Group Secretary,

Bury and Rossendale Hospital Management Committee,

Bury General Hospital, Bury.

CHEPSTOW, MONMOUTHSHIRE. ST. LAWRENCE HOSPITAL. (127 plastic surgery, 50 orthopædic beds.) PLASTIC SURGERY, JAW INJURIES AND BURNS CENTRE. SENIOR HOUSE OFFICER in Plastic Surgery required. Previous experience in specialty not essential. The Hospital intakes from most of Wales and the successful candidate will receive a thorough training. There is a second Senior House Officer in plastic surgery and also a Senior House Officer in orthopædics, Senior Registrar non-resident, and 2 Registrars, all in plastic surgery resident. Salary £745, less £150 board-residence.

Write, quoting 2 referees, to T. A. JONES, Group Secretary, 64, Cardiff-road, Newport, Mon.

CAMBRIDGE. ADDENBROOKE'S HOSPITAL. House PHYSICIAN for 6 months from 17th October, 1956. Recognised Pre-registration Service.

Apply, stating age, nationality, qualifications, and experience with dates, and copies of 3 testimonials, to Secretary, by 8th September, 1956. Interviews mid-September.

CAMBRIDGE. ADDENBROOKE'S HOSPITAL. House SURGEON for 6 months from 3rd October, 1956. Recognised Pre-registration Service.

Apply, stating age, nationality, qualifications, and experience with dates and copies of 3 testimonials, to Secretary by 8th September, 1956. Interviews mid-September.

CAMBRIDGE. ADDENBROOKE'S HOSPITAL. DERMATOLOGICAL REGISTRAR from 8th October, 1956, for 1 year in the first instance, renewable for second year.

Apply, with full particulars and names of 3 referees, to Secretary by 8th September, 1956.

CANTERBURY. KENT AND CANTERBURY HOS-PITAL. (277 Beds.) The post of GENERAL SURGICAL AND ORTHOPÆDIC HOUSE SURGEON, which is recognised for the F.R.C.S. Diploma, becomes vacant in mid-September, 1956. National Health Service salary and conditions.

Applications, together with 2 recent testimonials, to be addressed to the Hospital Secretary at the above Hospital.

CANTERBURY. KENT AND CANTERBURY HOS-PITAL. (277 Beds.) The post of PÆDIATRIC HOUSE PHYSICIAN, recognised for D.C.H., includes work in the ward and Outpatient Department and also provides experience in the care of the newborn. Opportunities exist for the study of preventive medicine among children and child guidance work. Post vacant at the end of September, 1956. National Health Service salary and conditions.

Applications, together with 2 testimonials, to be addressed to the Hospital Secretary at the above Hospital.

CANTERBURY. KENT AND CANTERBURY HOS-PITAL. (277 Beds.) The post of OBSTETRIC HOUSE SURGEON, which is recognised for the M.R.C.O.G. and D.Obst. R.C.O.G. becomes vacant in mid-September, 1956. National Health Service salary and conditions.

Applications, together with 2 recent testimonials, to be addressed to the Hospital Secretary at the above Hospital.

CARDIFF (near). CAERPHILLY DISTRICT MINERS HOSPITAL. (226 general beds.) SENIOR HOUSE OFFICER (general surgery). Married quarters may be available.

Apply to Group Secretary, Rhymney and Sirhowy Valleys Hospital Management Committee, Central Offices, Caerphilly-road, Ystrad Mynach, Henpoed, Glam.

CARDIFF. ROYAL HAMADRYAD GENERAL AND SEAMEN'S HOSPITAL. RESIDENT SENIOR HOUSE OFFICER (surgical) required at above Hospital. Locum appointment if desired. Post covers 44 Beds—genito-urinary, general surgery and outpatients. Department under care of Consultants from United Cardiff Hospitals.

Form of application from Group Secretary, Cardiff Hospital Management Committee, 44, Cathedral-road, Cardiff.

CARDIFF. THE UNITED CARDIFF HOSPITALS. Applications are invited for the post of REGISTRAR to the Professorial Surgical Unit at the Cardiff Royal Infirmary to commence on 5th December.

Application forms are available from the Secretary to the Board at the Cardiff Royal Infirmary, and should be returned within 14 days of the appearance of this advertisement.

CARSHALTON, SURREY. ST. HELIER HOSPITAL. Locum ANÆSTHETIC REGISTRAR wanted for 14 weeks from 17th September, 1956. Hospital recognised for D.A. and F.F.A.R.C.S.

Applications, giving qualifications and previous experience, to Group Secretary at above address.

CARSHALTON, SURREY. QUEEN MARY'S HOSPITAL FOR CHILDREN. (General Children's Hospital of 853 Beds.) SENIOR HOUSE OFFICERS (2 required), care of acute medical, rheumatism and poliomyelitis beds.

Applications, stating age, qualifications and experience, with copies of 3 testimonials, should reach the Group Secretary by 1st September, 1956.

CHELMSFORD. ST. JOHN'S HOSPITAL. House PHYSICIAN (pre-registration, first, second, or third appointment), Male or Female, to commence 24th September, 1956.

Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be received not later than 5th September by the Secretary, Group Hospital Management Committee, Chelmsford and Essex Hospital, London-road, Chelmsford.

CHELMSFORD. ST. JOHN'S HOSPITAL. Applications are invited from registered practitioners for the post of RESIDENT PÆDIATRIC HOUSE OFFICER (Male or Female), commencing 15th September, 1956, to work in the Pædiatric Unit of the Chelmsford Hospital Group. The Unit includes a Premature Baby Nursery of 10 Cots and a Neonatal Department in the Maternity Block of the Hospital. The Department is recognised for the D.C.H.

Applications, stating age, nationality, qualifications and experience, together with recent testimonials, should be received not later than 28th August, 1956, by the Group Secretary, Chelmsford Group Hospital Management Committee, Chelmsford and Essex Hospital, London-road, Chelmsford.

CHERTSEY, SURREY. ST. PETER'S HOSPITAL (Late Botleys Park War Hospital). (430 Beds.) ORTHOPÆDIC HOUSE SURGEON required from 28th August, 1956. 100 orthopædic beds. Senior House Officer or House Officer (Intern grade). Post recognised for F.R.C.S. and Pre-registration Service. Preference given to provisionally registered candidates. Salary in accordance with terms and conditions of National Health Service.

Applications, together with names and addresses of referees, to be sent to the Physician-Superintendent, St. Peter's Hospital, Chertsey, as soon as possible.

CHESTERFIELD ROYAL HOSPITAL. Casualty Officer required towards mid-September at above Hospital. Post recognised for Pre-registration Service and F.R.C.S. examinations.

Apply M. H. BOONE, Secretary, Chesterfield Hospital Management Committee.

CHICHESTER. GRAYLINGWELL HOSPITAL. Registrar (Lady or Gentleman) required at the above Psychiatric Hospital which has Departments of Research and Neurology and to which are attached 3 active outpatients clinics. All modern treatments are practised and organised training is given for D.P.M. Furnished accommodation available for single officer. Candidates may visit the Hospital by arrangement with the Medical Superintendent.

Application forms (obtainable from the Group Secretary) are returnable within 14 days of the appearance of this advertisement.

COLCHESTER. ESSEX COUNTY HOSPITAL. (188 Beds.) Applications invited for post of SENIOR HOUSE OFFICER (anæsthetics). Post tenable for 1 year. Recognised for F.F.A.R.C.S. and D.A. The successful candidate will be called upon to give anæsthetics in other hospitals in the Group.

Applications, with copies of 3 testimonials, to Group Secretary, Colchester Hospital Management Committee, 14, Pope's-lane, Colchester, Essex.

COLWYN BAY AND WEST DENBIGHSHIRE HOS-PITAL, COLWYN BAY. (60 Beds.) Locum JUNIOR HOSPITAL MEDICAL OFFICER required at above Hospital for period 3rd–23rd September, 1956, inclusive.

Applications, with 2 recent testimonials, to be sent forthwith to Group Secretary, Clwyd and Deeside Hospital Management Committee, "Rhianfa," Russell-road, Rhyl.

CROYDON. MAYDAY HOSPITAL. Croydon Group HOSPITAL MANAGEMENT COMMITTEE. Locum Tenens MEDICAL REGISTRAR (whole-time), 19th September–12th October, 1956, inclusive. Non-resident. Previous experience in general medicine essential.

Applications in writing, giving age, experience, and names of 2 referees, to— GEORGE A. PAINES, Group Secretary, Croydon Hospital Management Committee. General Hospital, London-road, Croydon.

DERBY CITY HOSPITAL. Obstetric House Surgeon (pre-registration) or SENIOR HOUSE OFFICER for duties at the Derby City Hospital (73 obstetric beds) and some duties at the Queen Mary Maternity Home (36 Beds). Post vacant 25th September, 1956.

Apply, stating age, qualifications and experience, with copies of 2 testimonials, to the Medical Superintendent.

DONCASTER ROYAL INFIRMARY. (330 Beds.) Appli-cations are invited for the post of RESIDENT ANÆSTHETIST in the grade of Senior House Officer. Duties to commence beginning of October.

Applications to the Group Secretary, Doncaster Hospital Management Committee, at Doncaster Royal Infirmary.

DUDLEY, STOURBRIDGE AND DISTRICT HOSPITAL GROUP. BIRMINGHAM REGION.

The Guest Hospital, Dudley (154 Beds)

SENIOR HOUSE OFFICER (casualty). Post now vacant.

SENIOR HOUSE OFFICER (anæsthetics). Post now vacant.

Wordsley Hospital, near Stourbridge (478 Beds)

SENIOR HOUSE OFFICER (surgical). Post vacant October, 1956.

Apply, Group Secretary, Guest Hospital, Dudley.

FARNBOROUGH HOSPITAL, Kent. (800 Beds.) Senior HOUSE OFFICER in Anæsthetics required immediately for 1 year. Recognised for D.A. and F.F.A.R.C.S.

Apply, stating age, qualifications with dates and experience and naming 3 referees, to Administrative Officer.

EAST ANGLIAN REGIONAL HOSPITAL BOARD. ORTHOPÆDIC REGISTRAR, Ipswich and East Suffolk Hospital. Post provides excellent training in orthopædic surgery. Appointment for 1 year, renewable for second year.

Applications, stating age, experience, and the names of 3 referees, to the Board's Senior Administrative Medical Officer, 117, Chesterton-road, Cambridge, by 3rd September, 1956. Candidates invited to visit Hospital by direct arrangement with Hospital Management Committee Secretary at the Hospital.

EDGWARE GENERAL HOSPITAL, Edgware, Middlesex. RESIDENT OBSTETRIC HOUSE SURGEON for above Hospital. Post vacant 16th October, 1956. 6 months appointment. Post recognised for M.R.C.O.G. purposes.

Applications, stating age, qualifications, experience, and enclosing copies of up to 3 recent testimonials, to Medical Director of Hospital by 8th September, 1956.

EDGWARE GENERAL HOSPITAL, Edgware, Middlesex. (715 Beds.) NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD. Whole-time NON-RESIDENT SURGICAL REGISTRAR required at above Hospital. Post vacant early October Hospital may be visited by direct appointment with Medical Director.

Application forms obtainable from, and returnable to, Group Secretary, Edgware General Hospital, by 4th September, 1956.

EDGWARE GENERAL HOSPITAL, Edgware, Middlesex. RESIDENT GYNÆCOLOGICAL HOUSE SURGEON for above Hospital. Post vacant 11th October, 1956. 6 months appointment. Post recognised for M.R.C.O.G. purposes.

Applications, stating age, qualifications, experience, and enclosing copies of up to 3 recent testimonials, to Medical Director of Hospital by 8th September, 1956.

EDGWARE GENERAL HOSPITAL, Edgware, Middlesex. 2 RESIDENT HOUSE SURGEONS for above Hospital. Posts vacant 18th and 20th October, 1956. 6 months appointments. Posts recognised for F.R.C.S. and pre-registration purposes.

Applications, stating age, qualifications, experience and enclosing copies of up to 3 recent testimonials, to Medical Director of Hospital by 1st September, 1956.

EDGWARE GENERAL AND BUSHEY MATERNITY HOSPITALS. NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD. Whole-time GYNÆCOLOGICAL AND OBSTETRICAL REGISTRAR required at above Hospital. M.R.C.O.G. desirable. Department has 140 obstetrical and 40 gynæcological beds. Hospital may be visited by direct appointment.

Application forms obtainable from, and returnable to, Group Secretary, Edgware General Hospital, Edgware, Middlesex, by 4th September, 1956.

EPPING. ST. MARGARET'S HOSPITAL. (480 Beds.) RESIDENT SENIOR HOUSE OFFICER (surgery), vacant 1st October, 1956. Post recognised for F.R.C.S. Busy general hospital with easy access to London. Salary on national scale, less deduction for board, lodging, &c.

Applications, with copies of 2 testimonials, to reach the Group Secretary, Epping Group Hospital Management Committee, "Oak Cottage," The Plain, Epping, Essex, by 31st August, 1956.

EPSOM DISTRICT HOSPITAL, Dorking-road, Epsom, SURREY. SENIOR HOUSE OFFICER (casualty) required 1st October, 1956. Post non-resident, recognised for F.R.C.S. 12 months appointment. Busy Casualty and Outpatient Department with excellent experience in minor and traumatic surgery. Candidates should have held previous House Officer posts.

Applications, stating age, qualifications, experience, with copies of 2 recent testimonials, should be sent as soon as possible to Group Secretary at above address.

EXETER. ROYAL DEVON AND EXETER HOSPITAL. Applications are invited from registered medical practitioners for the appointment of SENIOR HOUSE OFFICER (anæsthetics), resident or non-resident, vacant now. The post is recognised for the F.F.A.R.C.S. examination.

Applications, with copies of 2 recent testimonials, to the Hospital Secretary.

GLASGOW ROYAL INFIRMARY. Senior House Officer in Anæsthetics. Duties at above Infirmary. Facilities available for study for the D.A. and the F.F.A.R.C.S.

Write, giving 3 names for reference, not later than 31st August, 1956, to the Secretary, Board of Management for Glasgow Royal Infirmary and Associated Hospitals, 135, Buchanan-street, Glasgow, C.1.

GUILDFORD. ROYAL SURREY COUNTY HOSPITAL. (233 Beds.) SENIOR HOUSE OFFICER required for E.N.T. Department. Post is recognised for the D.L.O. examination. Vacant 17th September, 1956.

Applications, with copies of 3 testimonials, should be sent as soon as possible to the Hospital Secretary.

GUILDFORD. ST. LUKE'S HOSPITAL. Guildford GROUP HOSPITAL MANAGEMENT COMMITTEE. Locum OBSTETRIC AND GYNÆCOLOGICAL REGISTRAR required immediately.

Applications to Physician-Superintendent.

HEREFORD. GENERAL HOSPITAL. (154 Beds.) House OFFICER (general surgery) required. Hospital recognised by R.C.S. Duties include care of general surgical beds and in addition for 3 months of orthopædic beds and for 3 months of E.N.T. beds.

Applications, with copies of testimonials, to be sent to the Group Secretary.

HERTFORD COUNTY HOSPITAL. (171 Beds. Hospital situated 21 miles from London.) RESIDENT CASUALTY OFFICER (Senior House Officer grade) with attachment to Pædiatrician and Ophthalmic Consultant. Salary £745 p.a., less £150 p.a. residential emoluments. Recognised under F.R.C.S. regulations. Appointment to commence as soon as possible. Locum periods considered.

Apply, with full details and references, to Group Secretary, Hertford Hospital Management Committee, County Hospital, Hertford, Herts.

HASTINGS AND ST. LEONARDS. BUCHANAN HOSPITAL. (94 Beds.) HOUSE SURGEON in Gynæcology (29 gynæcological beds). Post, recognised for M.R.C.O.G., vacant 22nd September for 6 months. Candidates for Pre-registration Service (surgery) can be considered.

Apply, giving names of 3 referees, to Hospital Administrator.

HUDDERSFIELD ROYAL INFIRMARY. (285 Beds.) Applications are invited for the post of CASUALTY OFFICER. The post, which is resident, is recognised under the Fellowship regulations and will be graded either Junior Hospital Medical Officer or Senior House Officer according to experience. Duties terminate at 7 P.M. daily with 1 night weekly on call.

Applications for the appointment, which will be vacant on 1st October, 1956, should be accompanied by copies of 3 recent testimonials and addressed to—

H. J. JOHNSON, Group Secretary.

The Royal Infirmary, Huddersfield.

HEMEL HEMPSTEAD. WEST HERTS HOSPITAL. NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD. CLINICAL ASSISTANT required for 1 half-day a week (Wednesday afternoon) in the E.N.T. Department of the above Hospital. Post vacant immediately.

Applications, giving details of experience, to Group Secretary, West Herts Group Hospital Management Committee, 9, Rickmansworth-road, Watford, Herts, by not later than 10 days after appearance of this advertisement.

HULL A GROUP HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the post of SENIOR HOUSE OFFICER in the E.N.T. Department of the Victoria Hospital for Sick Children and the Hull Royal Infirmary. The post is recognised for the F.R.C.S. and D.L.O.

Applications, with testimonials, should be sent to the Secretary, Victoria Hospital for Sick Children, Park-street, Hull.

HULL. VICTORIA HOSPITAL FOR SICK CHILDREN, Park-street. HULL A GROUP HOSPITAL MANAGEMENT COMMITTEE. HOUSE SURGEON required for the above Hospital. Registration or pre-registration post. 6-monthly term. Recognised for the D.C.H. qualification. Salary according to national scale.

Replies, with testimonials, should be sent to the Hospital Secretary.

HUNTINGDON COUNTY HOSPITAL. Applications are invited for the post of HOUSE OFFICER (surgical), now vacant. Post recognised for pre-registration purposes.

Apply, with full particulars and names of 2 referees, to Secretary, County Hospital, Huntingdon.

ILFORD. KING GEORGE HOSPITAL, Eastern-avenue, ILFORD. There will be a vacancy for a HOUSE PHYSICIAN at above Hospital on 5th October, 1956. First or second post pre-registration. The post will be tenable for 6 months.

Applications, giving full particulars and accompanied by testimonials, should be sent to the undersigned within 7 days of the appearance of this advertisement.

H. F. HARRIS, Group Secretary,
Ilford and Barking Hospital Management Committee.

ILFORD. KING GEORGE HOSPITAL. Ilford and BARKING GROUP HOSPITAL MANAGEMENT COMMITTEE. There will be a vacancy for a SENIOR HOUSE OFFICER ANÆSTHETIST at the above Hospital on 1st October, 1956. The Officer appointed will be required to be available for duty in other hospitals in the Group. Salary will be at the rate of £745 p.a., less £150 p.a. emoluments.

Applicants should have been registered not less than 1 year, and should send applications, accompanied by copies of 3 testimonials, to the undersigned within 7 days of the appearance of this advertisement. H. F. HARRIS, Group Secretary.

King George Hospital, Ilford.

IPSWICH AND EAST SUFFOLK HOSPITAL. Anglesea ROAD WING. Locum Tenens CASUALTY OFFICER (Senior House Officer grade) required from 2nd to 31st October, 1956.

Applications with full particulars to Hospital Secretary.

ISLEWORTH. WEST MIDDLESEX HOSPITAL. Senior HOUSE OFFICER required for Admissions and Casualty Department. Must have held medical and surgical post.

Applications, stating age, nationality qualifications and experience, with copies of up to 3 recent testimonials, to Group Secretary, South West Middlesex Hospital Management Committee, West Middlesex Hospital, Isleworth, by 4th September, 1956.

LANCASTER MOOR HOSPITAL, Lancaster. (Regional MENTAL HOSPITAL.) Applications invited for the post of JUNIOR HOSPITAL MEDICAL OFFICER (resident). Unfurnished flat available for married applicants; furnished quarters for single persons. Hospital recognised for D.P.M. and facilities granted for attending neighbouring universities. All modern methods of investigation and treatment (deep insulin, &c.) carried out; outpatient clinics; Hospital serving North Lancashire and Lake District. Post for initial period of 4 years, but renewable if services satisfactory.

Applications, giving names and addresses of 2 referees, to Medical Superintendent.

LEAMINGTON SPA. WARNEFORD GENERAL HOSPITAL. (197 Beds.) CASUALTY OFFICER (Senior House Officer), Male or Female, resident or non-resident. Post vacant and suitable for one reading for higher qualifications, being recognised for F.R.C.S., affording contact with all Specialist Units in the Hospital.

Applications, with names and addresses of 3 referees, to Hospital Secretary.

LINCOLN COUNTY HOSPITAL. (200 Beds.) Sheffield REGIONAL HOSPITAL BOARD. Whole-time RESIDENT REGISTRAR (paediatrics) required. Appointment for 1 year in the first instance.

Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood-road, Sheffield, by 3rd September, 1956, giving age, nationality, qualifications, present and previous appointments with dates, naming 3 referees.

LIVERPOOL, 14. BROADGREEN HOSPITAL. Applications are invited from registered medical practitioners for the appointment of SENIOR HOUSE OFFICER (medical) to 1 of the 2 Medical Units at the Hospital. The appointment is non-resident and the salary will be £745 p.a.

Applications, on forms obtainable from the undersigned, should be returned completed not later than 31st August, 1956.

H. BLYTHE, Group Secretary.

LEEDS REGIONAL HOSPITAL BOARD. Registrar vacancies.

Anæsthetics

Halifax Group (approximately 290 Beds in the surgical specialties). Resident.

General Surgery

(*a*) Hull Royal Infirmary (80 general surgical beds) and other hospitals in the Hull A Group. Non-resident. Includes additional duties in the Casualty Department.

(*b*) Halifax Group. Mainly at the Royal Halifax Infirmary (110 general surgical beds). Preferably resident. Includes some duties in the Casualty Department.

Orthopædic Surgery

St. James's Hospital, Leeds (64 orthopædic beds), and the Public Dispensary, Leeds. Non-resident.

Applications, stating age, qualifications and details of present and previous appointments showing dates, together with the names and addresses of 3 referees, to the Secretary, Joint Registrars Committee, Park-parade, Harrogate, by 7th September, 1956.

MAIDSTONE. KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL. (113 Beds.) MID-KENT HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the appointment of SENIOR HOUSE SURGEON in the Ophthalmic Department of the above Hospital. The Hospital is recognised by the Examining Board for the F.R.C.S. and D.O. Salary £745 a year, less £150 a year for residential emoluments.

Applications should be forwarded as soon as possible to the Administrative Officer, Kent County Ophthalmic and Aural Hospital, Church-street, Maidstone.

MAIDSTONE. PRESTON HALL HOSPITAL, British LEGION VILLAGE, MAIDSTONE, KENT. Applications are invited for the appointment of SENIOR HOUSE OFFICER. Salary £745 p.a., national scale and conditions. The Sanatorium contains 330 Beds for the treatment of tuberculosis and includes a Major Thoracic Surgical Unit. Candidates may visit the Hospital at any time.

Applications, stating age, qualifications and giving names of 2 referees, to be sent, not later than 15th September, 1956, to—

A. A. HOWICK, Group Secretary.

MANCHESTER. SPRINGFIELD HOSPITAL, Crumpsall, MANCHESTER, 8. Applications are invited for the post of SENIOR HOUSE OFFICER at this mental hospital of over 750 Beds. Admission-rate is substantial, wide range of clinical material is available. All forms of modern treatment are used. There are associated outpatient clinics. Facilities will be granted for attendance at the Course for the D.P.M. of the University of Manchester (with the Department of Psychiatry, with which the Hospital is closely associated). The Hospital is approved for the D.P.M. (Eng.) and R.M.P.A. Accommodation is available for a single person, for which the appropriate deduction will be made. Permission to live out may be granted in certain circumstances.

Applications, giving the names of 2 referees, to be sent to the Medical Superintendent as soon as possible.

MANCHESTER REGIONAL HOSPITAL BOARD. Bury AND ROSSENDALE HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for REGISTRAR in Surgery at Bury General Hospital, the post falling vacant at the end of August. Post recognised for F.R.C.S.

Applications, together with the names of 2 referees, should be sent to H. WILKINSON, Group Secretary.

Bury General Hospital, Bury, Lancs.

MANCHESTER REGIONAL HOSPITAL BOARD. Salford HOSPITAL MANAGEMENT COMMITTEE. Applications invited for post of NON-RESIDENT REGISTRAR to the Neurosurgical Department at Salford Royal and the Royal Manchester Children's Hospitals. In addition to adult work, the post offers exceptional opportunities for experience in pædiatric neurosurgery.

Applications, together with names and addresses of 2 referees, to be sent to Group Secretary, Salford Royal Hospital, Salford, 3, before 1st September, 1956.

MANCHESTER REGIONAL HOSPITAL BOARD invite applications for the post of RESIDENT REGISTRAR in Obstetrics and Gynæcology, 1 of 2, in the West Manchester Group of hospitals with main duties at Park Hospital, Davyhulme. There are 73 obstetric beds, 31 gynæcology beds and a special care Baby Unit of 7 beds at Park Hospital. Vacant September. Appointment for 1 year, renewable.

Application forms from Group Secretary, Park Hospital, Davyhulme.

MANCHESTER REGIONAL HOSPITAL BOARD invite applications for the post of Whole-time RESIDENT SURGICAL REGISTRAR to the West Manchester Hospital Management Committee with duties primarily at Park Hospital, Davyhulme, but with duties at other hospitals within the Group. Post vacant early September. 12 months appointment subject to renewal.

Form from Secretary, Park Hospital, Davyhulme.

MANCHESTER REGIONAL HOSPITAL BOARD. Applications are invited for a resident post of REGISTRAR in the Obstetrics and Gynæcology Department in the Barrow and Furness Group of hospitals. The post will be available about 1st November next. 72 obstetric/gynæcological beds in main unit; Outpatient Departments and extensive surgical experience. Recognised for D.Obst.R.C.O.G.

Applications to Group Secretary, Barrow and Furness Hospital Management Committee, 105, Abbey-road, Barrow-in-Furness, not later than 6th September, 1956.

MANCHESTER REGIONAL HOSPITAL BOARD. Applications invited for post of NON-RESIDENT REGISTRAR in E.N.T. Surgery to the Salford and West Manchester Groups of hospitals, with main duties at Salford Royal and Park Hospitals.

Applications, together with names and addresses of 2 referees, to be sent to Group Secretary, Salford Royal Hospital, Salford, 3, before 1st September, 1956.

MANCHESTER. THE DUCHESS OF YORK HOSPITAL FOR BABIES AND WYTHENSHAWE HOSPITAL. SOUTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the post of SENIOR HOUSE OFFICER, vacant 1st October. A joint post of not less than 3 months and preferably 6 months at each Hospital is recognised as training for the D.C.H. The Duchess of York Hospital is also attached to the Manchester University Department of Child Health.

Applications to the Group Secretary, Withington Hospital, Manchester, 20, within 7 days of the appearance of this advertisement.

MANCHESTER. UNITED MANCHESTER HOSPITALS. MANCHESTER ROYAL INFIRMARY, MANCHESTER, 13. SENIOR HOUSE OFFICER to the Department of Hæmatology, to commence as soon as possible. Whole-time, non-resident post. Appointment for 6 months, renewable for a second and possibly a third 6 months.

Application form, obtainable from the undersigned, to be returned not later than 5th September, 1956.

G. H. TAYLOR, Secretary.

MANCHESTER. UNITED MANCHESTER HOSPITALS. SAINT MARY'S HOSPITALS, MANCHESTER. Applications are invited for 4 posts of HOUSE OFFICER in Gynæcology. Applicants must have had previous hospital experience in medicine and surgery. The posts are recognised for the purpose of the M.R.C.O.G. examination. The appointments are for 6 months starting 1st October, 1956. Salary in accordance with national scale.

Application forms may be obtained from the undersigned and should be returned immediately.

A. R. WISE, General Superintendent.
Saint Mary's Hospitals, Whitworth Park, Manchester, 13.

MANCHESTER. WEST MANCHESTER HOSPITAL MANAGEMENT COMMITTEE. PARK HOSPITAL, DAVYHULME. (General Hospital—433 Beds.) SENIOR HOUSE OFFICER required in the Group Laboratory. Post vacant 1st October, and renewable for 1 year. Duties, which alternate with holder of second similar post, include routine general pathology and emergency investigations. Laboratory recognised for D.Path. and D.C.P. examinations. Previous experience not essential.

Application forms from Group Secretary.

MANCHESTER, 20. WITHINGTON HOSPITAL. South MANCHESTER HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the post of SENIOR HOUSE OFFICER (obstetrics and gynæcology) becoming vacant on 1st September, 1956. The Hospital takes part in undergraduate medical teaching and the post is recognised in obstetrics and gynæcology for M.R.C.O.G. purposes.

An application form should be obtained from the Group Secretary at the Hospital and returned within 14 days of the appearance of this advertisement.

MANCHESTER, 20. WITHINGTON HOSPITAL. South MANCHESTER HOSPITAL MANCHESTER COMMITTEE. Applications are invited for the post of RESIDENT CLINICAL PATHOLOGIST (Senior House Officer grade), vacant immediately. Previous experience in pathology not essential, the post affording opportunities for gaining experience in all branches of clinical pathology.

Applications, stating age, qualifications, present post, experience, and names of 2 referees, to be forwarded to the Group Secretary, Withington Hospital, Manchester, 20, within 7 days of the appearance of this advertisement.

MANCHESTER. WYTHENSHAWE HOSPITAL. Man- CHESTER REGIONAL HOSPITAL BOARD, SOUTH MANCHESTER HOSPITAL MANAGEMENT COMMITTEE. Applications are invited from registered medical practitioners for 2 posts of RESIDENT SURGICAL OFFICER (Registrar grade) at the above Hospital. Each post will include responsibility for general surgical beds and 1 post will include responsibility for gynæcological beds. Both posts are recognised by the Royal College of Surgeons.

Applications, stating age, qualifications, present post, and names of 2 referees, to be forwarded to the Group Secretary, Withington Hospital, within 7 days of the appearance of this advertisement.

MIDDLESBROUGH. POOLE HOSPITAL. Nunthorpe, MIDDLESBROUGH. (Tuberculosis—308 Beds.) Applications are invited for the appointment of RESIDENT MEDICAL OFFICER (married accommodation available) for general duties on medical and surgical wards (adults and children). The grading and salary of the appointment will be either that of Junior Hospital Medical Officer or Senior House Officer, according to the experience of the candidate and will be subject in all respects to the National conditions of service. The Hospital is a most modern one with an active Thoracic Surgery Unit.

Applications, stating age, nationality, qualifications and previous experience, and the names of 3 referees, to be sent immediately to the Group Secretary, Cleveland Hospital Management Committee, West Lane Hospital, Middlesbrough.

MIDHURST, SUSSEX. KING EDWARD VII SANA- TORIUM. Applications are invited for the appointment of ASSISTANT MEDICAL OFFICER. Candidates should have had at least 6 months experience of tuberculous and non-tuberculous chest diseases. Commencing salary £600 p.a., in addition to full residential emoluments. The post is superannuable.

Applications, stating age, qualifications, experience and the names of 3 referees, should be sent to the Medical Superintendent and marked "A."

NEWMARKET GENERAL HOSPITAL, Suffolk. Applications are invited for the post, now vacant, of SENIOR HOUSE OFFICER, for orthopædic and casualty duties. The post is resident.

Applications, giving age, nationality and qualifications, together with 3 recent testimonials, should be sent to the Medical Superintendent.

NORTHAMPTON (near). CREATON SANATORIUM Applications are invited from suitably qualified medical practitioners for the post of SENIOR HOUSE OFFICER. The Sanatorium has 138 Beds and is for the treatment of both pulmonary and non-pulmonary tuberculosis. There is a new major Thoracic Surgical Unit for tuberculous and non-tuberculous diseases of the chest.

Applications, stating age, experience and qualifications, together with the names and addresses of 2 referees, should be sent to the Secretary, Northampton and District Hospital Management Committee, General Hospital, Northampton.

NORTHAMPTON (near). CREATON SANATORIUM. Applications are invited for the post of HOUSE OFFICER, which is recognised as a pre-registration medical appointment. The Sanatorium has 138 Beds and is for the treatment of both pulmonary and non-pulmonary tuberculosis. There is a new major Thoracic Surgical Unit for tuberculous and non-tuberculous diseases of the chest.

Applications, stating age, experience and qualifications, together with the names and addresses of 2 referees, should be sent to the Secretary, Northampton and District Hospital Management Committee, General Hospital, Northampton.

NORTHAMPTON GENERAL HOSPITAL. (482 Beds.) Vacancies 1st October, 1956, for the following :—

HOUSE OFFICER (general surgery) ; recognised for F.R.C.S.
HOUSE OFFICER (Department of Anæsthetics) ; recognised for D.A.
HOUSE OFFICER (Pædiatric Department) ; recognised for D.C.H.
HOUSE OFFICER (Fracture and Orthopædic Department) ; recognised for F.R.C.S.
HOUSE OFFICER (Casualty Department) ; recognised for F.R.C.S.
SENIOR HOUSE OFFICER (Casualty Department) ; recognised for F.R.C.S.
SENIOR HOUSE OFFICER (E.N.T. Department); recognised for F.R.C.S. and D.L.O.
SENIOR HOUSE OFFICER (Department of Pathology).

All posts, except those of Anæsthetic House Officer and the Senior House Officer posts, recognised for pre-registration. Casualty House Officer and Pædiatric House Officer posts recognised for medical pre-registration. All 6 months appointments in first instance.

Applications, enclosing copies of 3 testimonials, as soon as possible, to S. G. HILL, Superintendent.

NOTTINGHAM. CITY HOSPITAL. (811 Beds.) Appli- cations are invited for the post of HOUSE OFFICER (obstetrics and gynæcology ; recognised for pre-registration purposes), which will be graded Senior House Officer or House Officer in accordance with experience. Recognised for the M.R.C.O.G. and D.Obst.R.C.O.G. Post vacant on 6th October, 1956.

Applications, stating age, nationality, qualifications and experience, together with copies of not more than 3 testimonials, to be sent to the Hospital Secretary, City Hospital, Hucknall-road, Nottingham.

NOTTINGHAM GENERAL HOSPITAL. Applications are invited from registered medical practitioners for the post of SENIOR HOUSE OFFICER (casualty) duties to commence on or about 7th September, 1956. Establishment 3. Recognised for F.R.C.S. Post offers wide experience of casualty work.

Applications, stating age, nationality, qualifications and experience, together with copies of testimonials, to be sent to the Secretary, General Hospital, Nottingham.

NOTTINGHAM GENERAL HOSPITAL. Senior House OFFICER (anæsthetics) required as soon as possible. The post is recognised for the D.A., and the F.F.A.R.C.S. This is a busy general hospital giving experience in all branches of surgery.

Applications, stating age, nationality, qualifications and experience, together with copies of testimonials, to be sent to the Group Secretary.

NOTTINGHAM. HIGHBURY HOSPITAL. Senior HOUSE OFFICER (surgical) required at the above Hospital. Good opportunity for obtaining experience in all types of general surgery. Duties to commence on or about 16th September, 1956.

Applications, stating age, qualifications and experience, and nationality, together with copies of testimonials, to be sent to the Group Secretary, General Hospital, Nottingham.

ORPINGTON HOSPITAL, Orpington, Kent. Resident SENIOR HOUSE OFFICER ANÆSTHETIST required immediately for above 813-bedded General Hospital. Male or Female. Recognised for D.A.

Applications, with copies of 2 recent testimonials, to Physician-Superintendent.

PLYMOUTH. THE SCOTT ISOLATION HOSPITAL. PLYMOUTH SPECIAL HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the appointment of SENIOR HOUSE OFFICER from Male registered medical practitioners who have preferably been qualified for 1 year and have had previous hospital experience. The applicant should be able to drive a car. The duties, in 2 departments, will be chiefly in connection with infectious and venereal diseases, the former including a substantial proportion of cases in children. The varied clinical work, including acute medical cases and early pulmonary tuberculosis, provides valuable experience, particularly to those reading for a higher medical degree. The appointment will be for 1 year, vacant on 1st October next.

Applications, together with copies of 2 recent testimonials, should be sent to the Group Secretary, Plymouth Special Hospital Management Committee, 8, Nelson-gardens, Stoke, Plymouth, immediately.

OTLEY, YORKSHIRE. THE GENERAL HOSPITAL. (172 Beds.) SENIOR HOUSE SURGEON (Senior House Officer grade) in General and Orthopædic Surgery required to work under full Consultant staff who are members of the Teaching staff of Leeds University. Approval for F.R.C.S. pending.

Applications, stating age, nationality and experience, with names of 2 referees, to Group Secretary.

OXFORD. UNITED OXFORD HOSPITALS. Applications invited for the post of NON-RESIDENT REGISTRAR in the Department of Pathology, Radcliffe Infirmary, from 19th October, 1956.

Applications, on forms obtainable from the Administrator, Radcliffe Infirmary, Oxford, should be received not later than 10th September, 1956.

OXFORD. UNITED OXFORD HOSPITALS. Applications are invited for the post of HOUSE SURGEON in the Thoracic Surgery Unit at the Churchill Hospital, to commence as early as possible until 31st January, 1957.

Applications, stating age, qualifications and experience, together with names of 2 referees, to Administrative Assistant, Radcliffe Infirmary, Oxford, as soon as possible.

PORTSMOUTH GROUP HOSPITAL MANAGEMENT COMMITTEE.

Queen Alexandra Hospital

SENIOR HOUSE SURGEON (87 surgical beds), vacant 1st September, 1956.

Royal Portsmouth Hospital

(*a*) HOUSE OFFICER (pre-registration), Orthopædic Department (104 Beds), vacant now.

(*b*) SENIOR HOUSE SURGEON (70 surgical beds), vacant 19th September, 1956.

Applications, stating age, experience and qualifications, together with the names of 2 referees, should be forwarded as soon as possible to E. H. HURST.

35, Grove-road South, Southsea.

READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the appointment of JUNIOR HOSPITAL MEDICAL OFFICER in the Area Department of Diseases of the Chest, for duty in the Reading Chest Clinic. The post offers wide experience in both tuberculous and non-tuberculous chest diseases and duties will include attendance at Prospect Park Hospital, Reading, and Peppard Chest Hospital, Henley. Facilities are available for postgraduate studies. Salary within the scale £775–£1075 p.a.

Applications, stating age and qualifications, together with names of 3 referees, should be sent to the Group Secretary, 3, Craven-road, Reading.

READING. BATTLE HOSPITAL. (391 Beds.) Applications are invited from registered medical practitioners for the post of RESIDENT JUNIOR HOUSE SURGEON in the Area Accident and Orthopædic Department. Post vacant 1st October next. F.R.C.S. recognised. Also casualty duties. Salary £425–£525 p.a., less £125 board-residence.

Apply, stating age, qualifications with dates, nationality, present post, with 1 copy of recent testimonial, to Hospital Secretary.

READING COMBINED HOSPITALS. Area Department OF OBSTETRICS AND GYNÆCOLOGY. (104 Beds.) Applications are invited from registered medical practitioners, Male and Female, for the resident appointment of GYNÆCOLOGICAL HOUSE SURGEON at the Royal Berkshire Hospital, Reading. Vacant 1st October and tenable for 6 months. Post recognised for M.R.C.O.G.

Write, stating age and qualifications with dates, nationality, and present appointment, with copy of 1 recent testimonial, to Secretary.

READING. ROYAL BERKSHIRE HOSPITAL. (399 Beds.) READING AND DISTRICT HOSPITAL MANAGEMENT COMMITTEE. Applications are invited from registered and provisionally registered medical practitioners for the resident post of HOUSE PHYSICIAN in the Pædiatric Department; vacant 15th September for 6 months.

Write, before 3rd September, stating age, qualifications with dates, nationality, present post, with 1 copy of recent testimonial, to Secretary.

REDHILL. EAST SURREY HOSPITAL, Shrewsbury-road, REDHILL. RESIDENT HOUSE PHYSICIAN (pre-registration appointment), vacant late September.

Apply Hospital Secretary, quoting 2 referees.

ROCHFORD, ESSEX. GENERAL HOSPITAL. (622 Beds.) HOUSE PHYSICIAN (pre-registration) required, vacant 15th September, 1956.

Applications, &c. (1 testimonial only necessary from pre-registration applicant seeking first post) to be sent to the undersigned by 25th August, 1956. J. C. FIELD, Secretary.

ROCHFORD, ESSEX. GENERAL HOSPITAL. (622 Beds.) HOUSE OFFICER (obstetrics) required. Post vacant 20th September, 1956. Recognised for D.Obst.R.C.O.G. The Hospital has 75 maternity beds, a gynæcological ward of 25 beds and a Premature Baby Unit of 8 cots.

Applications, stating age, &c., to the Secretary at the above Hospital by 31st August, 1956. J. C. FIELD, Secretary.

ROMFORD, ESSEX. OLDCHURCH HOSPITAL. (722 Beds.) SENIOR HOUSE OFFICER required in the Department of Ophthalmology from 8th September, 1956.

Applications should be addressed immediately to the Group Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford.

ROMFORD, ESSEX. VICTORIA HOSPITAL. (99 Beds.) RESIDENT HOUSE PHYSICIAN (Male) required early in September, 1956. Post not approved for pre-registration purposes.

Applications should be forwarded to the Secretary, Romford Group Hospital Management Committee, Oldchurch Hospital, Romford.

SALISBURY GROUP HOSPITAL MANAGEMENT COMMITTEE. REGIONAL PLASTIC AND ORAL SURGERY CENTRE, ODSTOCK HOSPITAL, SALISBURY, WILTS. SOUTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD. Applications are invited for the post of SURGICAL REGISTRAR. Candidates should have had wide surgical experience and the possession of a higher surgical degree will be an advantage. Post vacant 16th November, 1956.

Application forms may be obtained from, and must be returned to, the Group Secretary, Odstock Hospital, Salisbury, by 6th September, 1956.

SALISBURY GENERAL HOSPITAL. Applications are invited for the appointment of RESIDENT HOUSE SURGEON/OBSTETRIC AND GYNÆCOLOGICAL HOUSE SURGEON (recognised by R.C.O.G.) to run consecutively in this order from 2nd November, 1956, for a period of 6 months in each post. The posts are open to pre-registration candidates.

Apply, enclosing 2 recent references, to Group Secretary, Salisbury Group Hospital Management Committee, Odstock Hospital, Salisbury.

SALISBURY GENERAL HOSPITAL. Orthopædic DEPARTMENT. Applications are invited for the post of SENIOR HOUSE OFFICER (resident) or RESIDENT HOUSE SURGEON which is also recognised for pre-registration candidates. The Department has over 50 Beds and a large outpatient turnover, dealing with fractures and all types of orthopædic surgery.

Applications, stating age, nationality, qualifications and experience, and naming 2 referees, to the Group Secretary, Salisbury Group Hospital Management Committee, Odstock Hospital, Salisbury, as soon as possible.

SCOTLAND. EASTERN REGIONAL HOSPITAL BOARD. Geriatrics. DUNDEE AND ANGUS AREA. Applications are invited for the post of SENIOR REGISTRAR for the Geriatric Service in the Dundee and Angus Area which is based on Maryfield (General Teaching) Hospital, Dundee, and Stracathro (General) Hospital, near Brechin. The Senior Registrar will have his main responsibilities at Stracathro Hospital. Salary and conditions of service in accordance with national agreement.

Further particulars and forms of application from the Secretary to the Board, 430, Blackness-road, Dundee, with whom applications must be lodged not later than 8th September, 1956.

SCOTLAND. SOUTH-EASTERN REGIONAL HOSPITAL BOARD. Applications are invited for the appointment of 2 REGISTRARS to the Royal Edinburgh Hospital for Mental and Nervous Disorders. During the tenure of the post opportunities for interchange of duty and training at other centres in the Region may be available under the joint training scheme of the South-Eastern Regional Hospital Board and the Department of Psychological Medicine of the University of Edinburgh. Single accommodation available.

Applications, giving particulars of age, qualifications and previous experience, together with the names of 2 referees, should be sent to the Secretary, South-Eastern Regional Hospital Board, Scotland, 11, Drumsheugh-gardens, Edinburgh, 3, by 15th September.

SCOTLAND. WESTERN REGIONAL HOSPITAL BOARD. Applications are invited for the appointment of REGISTRAR in Bacteriology based at the Royal Infirmary, Glasgow, which will be for 1 year in the first instance. This appointment is subject to the National Health Service (Scotland) superannuation regulations.

Applications (12 copies), stating date of birth, qualifications, experience, present appointment, and the names of 3 referees, to reach the Secretary, Western Regional Hospital Board, 64, West Regent-street, Glasgow, C.2, by 8th September, 1956.

SCUNTHORPE AND DISTRICT WAR MEMORIAL HOSPITAL. (267 Beds. Recognised for training for F.R.C.S.) **SHEFFIELD REGIONAL HOSPITAL BOARD.** Whole-time RESIDENT REGISTRAR (orthopædics) required. Appointment for 1 year in first instance.

Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood-road, Sheffield, by 3rd September, 1956, giving age, nationality, qualifications, present and previous appointments with dates, naming 3 referees.

SCUNTHORPE. WAR MEMORIAL HOSPITAL. (262 Beds.) Applications are invited for RESIDENT HOUSE PHYSICIANS.

(*a*) Senior House Officer/Intern, vacant late September.

(*b*) Intern/Senior House Officer, vacant early October.

Busy department with medicine, pædiatrics, skins and eyes—large outpatient clinics.

Applications, naming 2 referees, to Group Secretary, Scunthorpe Hospital Management Committee.

SHEFFIELD. CITY GENERAL HOSPITAL. (652 Beds. Recognised for Final Fellowship examination.) **SHEFFIELD REGIONAL HOSPITAL BOARD.** Whole-time RESIDENT REGISTRAR (thoracic surgery) required. Appointment for 1 year in first instance. General Hospital with Regional Department of Cardiology. Thoracic Surgical Unit deals with tuberculous and non-tuberculous cases. Previous thoracic surgical experience desirable.

Apply to Secretary, Sheffield Regional Hospital Board, Old Fulwood-road, Sheffield, by 3rd September, 1956, giving age, nationality, qualifications, present and previous appointments with dates, naming 3 referees.

SHEFFIELD. THE UNITED SHEFFIELD HOSPITALS/ SHEFFIELD REGIONAL HOSPITAL BOARD. SHEFFIELD CENTRE FOR THE INVESTIGATION AND TREATMENT OF RHEUMATIC DISEASES. REGISTRAR required at the above Centre which has an outpatient, an inpatient, and a Chemical Research Unit. A Registrar is required to assist in the study and treatment of severe rheumatic diseases. Previous experience in this field is not essential but candidates must have an interest in research.

Applications immediately, with the names of 3 referees, to the Chief Administrative Officer, The United Sheffield Hospitals, West-street, Sheffield, 1, from whom further details may be obtained.

SHEFFIELD REGIONAL HOSPITAL BOARD and BOARD OF GOVERNORS OF THE UNITED SHEFFIELD HOSPITALS. Reciprocal Training Scheme for Senior Registrars. Whole-time SENIOR REGISTRAR in Anæsthetics required. Initial tenure at City General Hospital, Sheffield (692 Beds), a large general hospital having teaching affiliations with the University of Sheffield and with Professorial Medical and Gynæcological Units, a Department of Thoracic Surgery and a Regional Cardiological Centre. Appointment for 1 year in first instance and renewable thereafter annually. Incumbent will be transferred to the Teaching Hospitals for the second phase of the appointment in accordance with arrangements under the Reciprocal Training Scheme. Renewal of appointment and transfer to the Teaching Hospitals will be subject to satisfactory work and progress.

Further details and form of application from Senior Administrative Medical Officer, Sheffield Regional Hospital Board, Fulwood House, Old Fulwood-road, Sheffield, 10. Forms to be returned by 3rd September, 1956.

SIDCUP AND SWANLEY HOSPITAL MANAGEMENT COMMITTEE. Locum RESIDENT SURGICAL OFFICER required for 4 months from 21st September, 1956. Rate of pay £17 10s. per week. Applicants should be widely experienced as a considerable amount of emergency surgery is required.

Applications to Secretary, Queen Mary's Hospital, Sidcup, Kent.

SKIPTON (near). GRASSINGTON HOSPITAL. (208 Beds.) JUNIOR HOSPITAL MEDICAL OFFICER required for the above Hospital, which provides treatment for tuberculosis patients, men and women. Accommodation available for single applicants. Post tenable from 1st September, 1956, or earlier if desired.

Applications to Medical Superintendent.

SOUTHAMPTON CHEST HOSPITAL. South West METROPOLITAN REGIONAL HOSPITAL BOARD. SURGICAL REGISTRAR required for the Thoracic Unit (80 surgical beds) at the above Hospital. Candidates should possess higher qualifications and have had previous experience of thoracic surgery. The Hospital may be visited, if desired, by prior arrangement.

Application forms may be obtained from the undersigned to whom they should be returned not later than Wednesday, 5th September, 1956.

FRANK JENNINGS, Group Secretary,
Southampton Group Hospital Management Committee.
Bullar-street, Southampton.

SOUTHAMPTON. ROYAL SOUTH HANTS HOSPITAL. (278 Beds.) ORTHOPÆDIC HOUSE SURGEON required. Post recognised for Pre-registration Service and tenable for 6 months. The Hospital is the centre to which all trauma from a large industrial town and port is directed thus providing excellent experience in the treatment of traumatic conditions; patients with orthopædic conditions are also drawn from a wide area.

Applications, with copies of testimonials, should be sent as soon as possible to the Group Secretary, Southampton Group Hospital Management Committee, Bullar-street, Southampton.

SOUTHAMPTON. ROYAL SOUTH HANTS HOSPITAL (274 Beds) and SOUTHAMPTON GENERAL HOSPITAL (472 Beds). SENIOR HOUSE OFFICER (E.N.T.) required beginning of October. This post is recognised for the F.R.C.S (Eng.) and D.L.O. examinations and provides experience in all branches of E.N.T. work. The Group includes a diagnostic and distributing Hearing Aid Centre.

Applications, with copies of recent testimonials, should be forwarded as soon as possible, to the Secretary, Southampton Group Hospital Management Committee, Bullar-street, Southampton.

SOUTH CHESHIRE HOSPITAL MANAGEMENT COM-MITTEE. REGISTRAR in Obstetrics and Gynæcology (resident). Department of 60 Beds. Considerable operative experience available. Main Units at Nantwich and Crewe. Salary and conditions in accordance with Whitley Council regulations.

Applications, stating age, qualifications, experience and names of 3 referees, to Group Secretary, Group Headquarters, Barony Hospital, Nantwich.

SOUTH CHESHIRE HOSPITAL MANAGEMENT COM-MITTEE. JUNIOR HOSPITAL MEDICAL OFFICER (anæsthetics), 3 years appointment; D.A. preferred. New operating suite to be opened shortly. Duties chiefly at general hospital and a Maternity Unit at another hospital. Hospital approved for D.A. Salary and conditions as per regulations.

Applications, giving age, details of experience, and names of 3 referees, immediately, to Group Secretary, Group Headquarters, Barony Hospital, Nantwich.

SOUTHEND-ON-SEA. GENERAL HOSPITAL. Locum CASUALTY OFFICER (Senior House Officer grade) required for the period 1st September–21st October, 1956, inclusive. 2 other Casualty Officers are employed.

Applications to be sent to the undersigned as soon as possible.

J. C. FIELD, Secretary.

SOUTHPORT GENERAL INFIRMARY. Junior Hos-PITAL MEDICAL OFFICER (resident). Whole-time casualty post, vacant about November.

Apply, stating age, qualifications, experience, nationality, enclosing copies of 2 recent testimonials, to Group Secretary, Southport and District Hospital Management Committee, Promenade Hospital, Southport.

SOUTHPORT. PROMENADE HOSPITAL. Senior HOUSE OFFICER (resident). Duties mainly connected with Orthopædic and E.N.T. Departments. Post vacant about mid-September.

Apply, stating age, experience, qualifications, nationality, and enclosing copies of 2 recent testimonials, to Group Secretary, Southport and District Hospital Management Committee, Promenade Hospital, Southport.

STAFFORD HOSPITAL MANAGEMENT COMMITTEE. SENIOR HOUSE OFFICER (anæsthetics), Male or Female, resident. Recognised for D.A.

Applications to Group Secretary, Stafford Hospital Management Committee, 13, Foregate-street, Stafford.

ST. ALBANS CITY HOSPITAL, St. Albans, Hertfordshire. (384 Beds.) Locum Tenens ANÆSTHETIC REGISTRAR (resident), required for the period 10th–23rd September, inclusive.

Applications to Secretary, Mid Herts Group Hospital Management Committee, Bleak House, Catherine-street, St. Albans.

ST. ALBANS CITY HOSPITAL, Normandy-road, St. ALBANS. (384 Beds.) Locum Tenens SURGICAL REGISTRAR required for 1 of the 2 general surgical teams for the period 10th–30th September, inclusive.

Applications to the Secretary, Mid Herts Group Hospital Management Committee, Bleak House, Catherine-street, St. Albans.

ST. ALBANS, HERTFORDSHIRE. CELL BARNES HOSPITAL. NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD. REGISTRAR required at above Hospital. This is a modern hospital where 895 mentally defective persons of all types, including children, are under care. Approved for D.P.M. Hospital may be visited by direct appointment.

Application forms obtainable from, and returnable to, Group Secretary, Hospital Management Committee, Harperbury Hospital, St. Albans, Herts, by 10th September, 1956.

ST. HELENS AND DISTRICT HOSPITAL MANAGE-MENT COMMITTEE. WHISTON HOSPITAL, PRESCOT. (892 Beds.) (OBSTETRICAL UNIT—73 Beds.) Applications are invited for the resident post of SENIOR HOUSE OFFICER (obstetrics and gynæcology), which is recognised for the M.R.C.O.G. and D.Obst.R.C.O.G. examinations. Previous obstetrical and gynæcological experience is essential.

Applications, stating age, qualifications, experience and nationality, and giving 2 names for reference, should be forwarded to—

N. RICHARDS, Group Secretary.
Whiston Hospital, Prescot.

STOCKPORT INFIRMARY. (163 Beds.) Stockport and BUXTON HOSPITAL MANAGEMENT COMMITTEE. Applications are invited for the post of HOUSE OFFICER (general surgery and ophthalmology), vacant 24th September, 1956. This post is approved for pre-registration purposes and recognised for the F.R.C.S. and D.O.M.S.

Applications, stating age, qualifications and experience, together with copies of 2 testimonials, to be addressed to the Secretary, Stockport and Buxton Hospital Management Committee, 59B, Shaw-heath, Stockport.

STOKE-ON-TRENT. CITY GENERAL HOSPITAL. HOUSE OFFICER (pædiatrics) required, vacant very shortly. Pre-registration post.

Detailed applications, with copy testimonials, to Group Secretary, Princes-road, Stoke-on-Trent.

STOKE-ON-TRENT. NORTH STAFFORDSHIRE ROYAL INFIRMARY. (455 Beds.) SENIOR HOUSE OFFICER (ophthalmology) required. Recognised F.R.C.S. and D.O.

Applications to Group Secretary, Hospital Management Committee, Princes-road, Stoke-on-Trent.

TORQUAY. TORBAY HOSPITAL. Resident Senior HOUSE OFFICER (surgery) required early September, 1956. Post recognised for F.R.C.S. There is a complement of 6 Resident House Officers.

Applications, stating qualifications, age, nationality, with copies of testimonials (quoting Ref. F. 955/72) to the Group Secretary, Torquay District Hospital Management Committee, Torbay Hospital, Torquay, S. Devon.

WATFORD. SHRODELLS HOSPITAL. (General Hos-pital—420 Beds.) Applications are invited for the post of SENIOR HOUSE OFFICER to the Geriatric Unit. This unit of 180 Beds under full-time Geriatrician, offers excellent clinical experience in the diagnosis and treatment of acute and other illnesses in the elderly. Full laboratory and radiological facilities available. Adequate time for reading.

Applications, together with copies of not more than 2 testimonials, to reach the Medical Officer-in-charge as soon as possible.

WELSH REGIONAL HOSPITAL BOARD.

REGISTRAR in General Medicine, based at Royal Alexandra Hospital, Rhyl (138 Beds). May be required to visit other hospitals in Clwyd and Deeside Hospital Management Committee area. Non-resident.

REGISTRAR (orthopædics), Royal Gwent Hospital, Newport. Separate Fracture and Orthopædic Unit (36 Beds). Own Out-patient, X-ray and Rehabilitation Departments. Non-resident.

Subject to review end of first year.

Application forms from Senior Administrative Medical Officer, Temple of Peace, Cathays Park, Cardiff, within 14 days.

WINCHESTER. ROYAL HAMPSHIRE COUNTY HOS-PITAL. (311 Beds.) HOUSE PHYSICIAN (pre-registration), vacant 5th October, 1956.

Applications, with copies of 2 testimonials, to the Secretary.

WOODFORD GREEN, ESSEX. HARTS HOSPITAL. (100 Beds.) SENIOR HOUSE OFFICER required. Post vacant 4th October, 1956. The Hospital is a modern sanatorium with a Thoracic Surgical Unit and Area Chest Clinic. The post offers exceptional opportunity for gaining experience in tuberculosis and diseases of the chest. Accommodation for single person only. Salary £745 p.a., less £150 p.a. for board, lodging, &c.

Applications, with copies of 2 recent testimonials, should be sent immediately to Secretary, Forest Group Hospital Management Committee, Langthorne-road, E.11.

WORCESTER. RONKSWOOD HOSPITAL. Resident ANÆSTHETIST (Senior House Officer status) required at end of September for post which is recognised by the Faculty of Anæsthetists. Duties cover all specialties. Married accommodation available.

Applications, with names and addresses of 3 referees, to be sent to the Hospital Secretary.

WEST BROMWICH AND DISTRICT GENERAL HOSPITAL. (144 Beds.) HOUSE PHYSICIAN (pre-registration), vacant 1st October, 1956.

Applications, with 3 recent testimonials, to Group Secretary, West Bromwich and District Hospital Management Committee, Edward-street, West Bromwich.

WEST BROMWICH AND DISTRICT GENERAL HOSPITAL. (144 Beds.) HOUSE SURGEON (pre-registration), vacant 1st October, 1956.

Applications, with 3 recent testimonials, to Group Secretary, West Bromwich and District Hospital Management Committee, Edward-street, West Bromwich.

WIGAN AND LEIGH HOSPITAL MANAGEMENT COMMITTEE. REGISTRAR in Chest Diseases to the Wigan and Leigh and Wrightington Groups of hospitals. 2 busy chest clinics and opportunity to gain experience in Thoracic Surgical Unit.

Applications, together with the names of 2 referees, to the Secretary, Wigan and Leigh Hospital Management Committee, Knowsley House, Wigan, as soon as possible.

WILLERBY, EAST YORKSHIRE (near Hull). DE LA POLE HOSPITAL. (1174 Beds—mental illness and nervous disorders.) JUNIOR HOSPITAL MEDICAL OFFICER. Hospital has admission-rate of over 850 annually. Modern reception hospital, villas and neurosis unit. All modern methods of treatment practised. The successful candidate will be engaged on work in the admission wards to a considerable extent and for duties at a Psychiatric Day Clinic to be opened shortly. Accepted for D.P.M. training. Residential.

Application forms from Group Secretary, Hull B Hospital Management Committee, at the above address.

BELFAST HOSPITAL MANAGEMENT COMMITTEE, RIDDEL HOUSE, ROYAL VICTORIA HOSPITAL, BELFAST. SENIOR HOUSE OFFICER. Applications are invited from candidates training for Part II, Diploma of Physical Medicine. Salary £745 p.a.

Application to be made on a form obtainable from the Secretary, Belfast Hospital Management Committee, Riddel House, Royal Victoria Hospital, Belfast, not later than 3rd September, 1956.

Public Appointments

BOROUGH OF HOVE, Senior Assistant Medical Officer; EAST SUSSEX COUNTY COUNCIL, SCHOOL MEDICAL OFFICER. Applications are invited for the above permanent appointments from Male registered medical practitioners possessing the D.P.H. The combined salary scale is £1155 p.a., rising by 3 annual increments of £50 and 5 of £55 to £1580 p.a. Account will be taken of previous experience in fixing the commencing salary. Car allowances are paid. The duties include work in connection with Public Health, Infectious Diseases, and School Medical Services.

Further particulars and application forms may be obtained from the undersigned, to whom applications should be sent so as to arrive not later than Monday, 10th September, 1956.

Town Hall, Hove, 3. JOHN E. STEVENS, Town Clerk.

CITY OF PORT ELIZABETH. Vacancies—Health Department. Applications are invited from registered medical practitioners for 2 vacant positions of ASSISTANT TUBERCULOSIS OFFICERS in Grade £1020–£60–£1380 p.a. The commencing salary will be commensurate with qualifications and experience. In addition to the salary a cost-of-living allowance, at present £234 p.a., will be payable if the appointees are married males. No cost-of-living allowance will be paid to single persons. A transport allowance, at present at the rate of £15 13s. 10d. per month, is payable.

Applications should state qualifications, earliest date duty can be assumed, whether applicant is in receipt of a pension, and experience and be accompanied by not more than 3 recent testimonials. Applications must be submitted immediately to DAVIS & SOPER LTD., 52 and 54, St. Mary-axe, London, E.C.3.

NORFOLK COUNTY COUNCIL. Applications are invited from registered medical practitioners holding the Diploma in Public Health for appointment as SENIOR ASSISTANT MEDICAL OFFICER on headquarters staff. In addition to administrative work, the duties will include the medical examination of staff and deputising for other medical officers. The salary scale (subject to Council approval) will be £1343 10s.–£52 10s.–£1606. Travelling and subsistence allowances will also be paid.

Application forms, together with further particulars of the post, can be obtained from the County Medical Officer, 29, Thorpe-road, Norwich, to whom completed applications should be sent not later than 19th September, 1956.

GOVERNMENT OF BRITISH GUIANA. Surgeon required for surgical, obstetrical and gynæcological work principally at the Public Hospital, Georgetown, including the instruction of Junior Medical Officers and Nurses. He will assist the Senior Surgeons under the direction of the Director of Medical Services. Appointment on permanent basis with pension (non-contributory) 1/600th of final pensionable emoluments for each completed month of service; or on contract for 3 years resident service with gratuity (taxable) of 22½% of salary for each 3 months service. Candidates in National Health Service may leave but retain their superannuation rights during their service abroad (up to 6 years) and receive a gratuity (taxable) of 20% of their salary on leaving oversea employment. Salary £1600 a year plus non-pensionable allowance of £250 a year in lieu of consultation fees. Free unfurnished quarters or an allowance of £100 a year in lieu. Generous home leave. Free passages on appointment for Officer, wife, and children under 18 years, not exceeding 5 persons in all. Assisted passages for Officer and wife on leave. Candidates must hold medical qualifications registrable in United Kingdom and F.R.C.S. and have been actively engaged in general surgery during past 3 years.

Application forms from Director of Recruitment, Colonial Office, London, S.W.1 (quoting No. BCD.117/30/02).

GOVERNMENT OF BRITISH GUIANA. Lady Health OFFICER required to coördinate and supervise activities of Maternity and Child Welfare Services, the work of the Inspector of Midwives and Health Visitors, and various activities of Health Centres in rural areas and New Amsterdam. She would also be required to lecture and train mothers in health matters, advise on dietary of young children and teach mothercraft to older school girls; advise on nutrition services; examine pre-school and school children; teach student nurses in the Training School methods to be adopted for the prevention and spread of infections and make occasional tours of inspection in outlying districts. Appointment on permanent basis with pension (non-contributory) 1/600th of final pensionable emoluments for each completed month of service, or on contract for 3 years resident service with gratuity (taxable if drawn in United Kingdom) of 22½% of salary for each completed 3 months satisfactory service payable at 6-monthly intervals or on conclusion of the leave earned under the contract. In former case leave would not count for gratuity purposes. Candidates in National Health Service may leave but retain their superannuation rights during their time overseas (up to 6 years) and receive a gratuity (taxable) of 20% of salary on leaving overseas employment. Salary £1600 a year plus non-pensionable allowance of £250 a year in lieu of consulting fees. Private practice not permitted. Income-tax at local rates. Quarters not provided but accommodation available at reasonable rental. Free passages. Generous leave. Candidates must possess medical qualifications registrable in United Kingdom and a Diploma in Public Health. They should be unmarried and under 35.

Application forms from Director of Recruitment, Colonial Office, London, S.W.1 (quoting No. BCD. 117/30/014).

GOVERNMENT OF TRINIDAD. Applications invited from Doctors with qualifications registrable in United Kingdom, for following posts in Trinidad. Applicants should have 3 years post-registration experience and hold the Diploma in Public Health or equivalent qualification.

(*a*) *Public Health Department*—MEDICAL OFFICER (Grade B), for work usually required of Medical Officers of Health including public health administration, environmental sanitation, School Health, Maternity and Child Welfare Services, communicable disease control, housing, &c., and the implementation of provisions of the Ordinance and Laws relating to public health.

(*b*) *Venereal Disease Division*—MEDICAL OFFICER (Grade B), to undertake and supervise diagnostic and treatment measures in various venereal disease and yaws treatment centres; to supervise the work of Junior Medical Officers, teach control and treatment measures to junior medical and nursing staff and coöperate with Public Health Officers in effecting such control.

Appointment on permanent basis with pension (non-contributory), or on short-term agreement. Candidate in National Health Service may leave but retain his superannuation rights (up to 6 years) and receive a gratuity of 20% of his aggregate salary on completion of engagement. Salary scale B.W.I. $6720–B.W.I. $7200 ($1400–£1500) p.a. Government quarters if available at low rental, or an allowance in lieu. Free passages on appointment for Officer and family not exceeding 5 persons in all, on leave subject to maximum of 3 adult fares. Income-tax at local rates. Generous home leave. Tour of service is 3½ years. Educational facilities are available.

Application forms from the Director of Recruitment, Colonial Office, London, S.W.1 (quoting No. BCD. 117/38/014).

MINISTRY OF SUPPLY. Deputy Chief Scientific Officer. The Civil Service Commissioners invite applications from men aged 32 or more on 1st September, 1956, for the pensionable post of SUPERINTENDENT OF MEDICAL DIVISION, Chemical Defence Experimental Establishment, Porton, Wilts. The Superintendent of the Division would be responsible for groups carrying out pure and applied research in physiology, pharmacology, toxicology, biophysics and biochemistry. Candidates must be medically qualified. In addition a first or second class honours degree in physiology or other natural science would be an advantage. Experience of medical research including toxicological techniques essential. Salary scale £2300–£2600. Starting salary above minimum may be granted according to qualifications and experience.

Further particulars and application forms from Civil Service Commission, Scientific Branch, 30, Old Burlington-street, London, W.1, quoting No. S.4618/56/8. Application forms should be returned by 11th September, 1956.

REGIONAL MEDICAL HEALTH OFFICERS
required by the
SASKATCHEWAN DEPARTMENT OF PUBLIC HEALTH

Salary—$8112–$9588 p.a.

Duties—To perform professional medical and administrative work as Medical Health Officer in an organised Health Region with a population of approximately 50,000, to develop regional preventive health services and a general public health programme.

Requirements—Graduation from an approved Medical School; some medical and administrative experience. Diploma or Master's Degree in Public Health desirable but not essential.

Benefits—3 weeks annual vacation with pay; 3 weeks sick leave, accumulative, with pay; suitable superannuation scheme. Opportunity is available for assisted postgraduate training.

For application forms contact Public Service Commission, Legislative Building, Regina, Saskatchewan, Canada. For further information write to Personnel Officer, Department of Public Health, Provincial Health Building, Regina, Saskatchewan, Canada.

NORTH THAMES GAS BOARD. A Whole-time Industrial MEDICAL OFFICER is required to undertake the day-to-day medical services of part of the Board's Area. The starting salary will be in the region of £1400–£1600 p.a., depending on age and qualifications. Previous experience in general practice would be an advantage. The appointment is of a permanent nature and the successful candidate will be required to join the Staff Pension Scheme.

Applications, stating age and giving full details of experience and qualifications, should be sent to the Staff Controller, North Thames Gas Board, 30, Kensington Church-street, W.8, not later than 14 days after the publication of this advertisement.

RESEARCH BRANCH, HER MAJESTY'S OVERSEA SERVICE. EAST AFRICA HIGH COMMISSION. A BACTERIOLOGIST is required for the East Africa Medical Survey and Research Institute, Mwanza, Tanganyika (Director, Dr. E. G. HOLMES, M.D., M.R.C.P.). He would be expected to undertake bacteriological research and in particular to explore some aspect of bacterial disease in East Africa. Candidates must possess medical qualifications registrable in the United Kingdom and preferably also a Diploma in Bacteriology.

Terms of appointment: Either (i) on probation, or (ii) temporary appointment, on terms applicable to the Research Branch of Her Majesty's Oversea Civil Service.

Emoluments: Consist of salary and overseas research allowance in range £1115–£1940 a year. Point of entry depends upon qualifications and experience. Variable non-pensionable cost-of-living allowance, at present 10% of gross emoluments up to a maximum allowance of £162 a year. A salaries revision, including consolidation of cost-of-living allowance, is under consideration. Contributory superannuation scheme for candidate appointed on probation or a gratuity (taxable) of 15% of salary for temporary appointment. Government quarters if available at rental of 10% of basic salary; if not, an allowance is paid. Free passages for Officer, wife, and children under the age of 13.

Application forms from Director of Recruitment, Colonial Office, London, S.W.1 (quoting No. BCD. 195/213/02).

STAFFORDSHIRE COUNTY COUNCIL. Wednesbury MUNICIPAL BOROUGH COUNCIL. Applications are invited for the separate part-time appointments of MEDICAL OFFICER to the Wednesbury Area Health Committee of the County Council and MEDICAL OFFICER OF HEALTH of the Borough of Wednesbury. The appointments together will constitute whole-time, the allocations being 6 half-days and 5 half-days respectively. The proportionate salary for each appointment is calculated in accordance with the latest agreed scale, and increments will be given for previous service in the same capacity, the ranges being:—

Medical Officer to Area Health Committee (County Council) £1018 5s. 11d.–£36 5s. 0d. (7)–£32 19s. 1d. (1)–£1305.

Medical Officer of Health (Wednesbury M.B.C.) £836 7s. 3d.–£25–£936 7s. 3d.

A car is necessary and an allowance will be paid.

The posts are superannuable and the successful candidate must pass a medical examination and produce his birth certificate. Applicants must be fully qualified medical practitioners with experience in public health duties, and must hold the Diploma of Public Health or its equivalent. The candidate appointed will, as regards the County Council duties, act under the direction of the County Medical Officer of Health and will be required to perform such duties as may from time to time be prescribed. As regards the duties of Borough Medical Officer of Health, he will be subject to the Sanitary Officers (outside London) Regulations, 1935 and 1951, and to the sole control and direction of the Corporation. Either appointment will be subject to 3 calendar months notice in writing on either side.

Forms of application may be obtained from the County Medical Officer of Health, County Buildings, Stafford, and should be returned to him not later than by first post on 14th September, 1956. T. H. EVANS, Clerk of the County Council.

G. F. THOMPSON, Town Clerk, Wednesbury M.B.C.

County Buildings, Stafford, 20th August, 1956.

STAFFORDSHIRE COUNTY COUNCIL. Appointment of ASSISTANT COUNTY MEDICAL OFFICER AND SCHOOL MEDICAL OFFICER—South Staffs Area. Applications are invited from fully qualified medical practitioners and those holding the Diploma of Public Health will be given preference. The candidate appointed will undertake clinical work in the School Health and Child Welfare Services under the direction of the County Medical Officer of Health, and will be required to perform such other duties as may from time to time be prescribed. The salary scale is £1050–£50–£1200–£55–£1475, and increments may be given for previous similar service. The appointment will be terminable by 3 months notice in writing on either side and subject to the provisions of the appropriate Superannuation Acts and Regulations, in which connection the selected candidate must pass a medical examination and submit his or her birth certificate.

Forms of application may be obtained from the County Medical Officer, County Buildings, Stafford, to whom they should be returned when completed not later than by 4th September, 1956. T. H. EVANS, Clerk of the County Council.

County Buildings, Stafford, 9th August, 1956.

Hospital Services: Non-Medical Appointments

WARNEFORD AND PARK HOSPITALS MANAGE- MENT COMMITTEE. PARK HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS.' SECRETARY-IN-CHARGE required for busy Outpatient Department. The work, which requires a good educational standard, initiative, and high shorthand and typewriting speeds, is varied and interesting. Salary on Whitley Council Grade C (£435–£580). Accommodation available, if required, in modern Nurses' Home.

Applications, with the names of 2 referees, to the Secretary, Warneford and Park Hospital Management Committee, The Warneford Hospital, Oxford.

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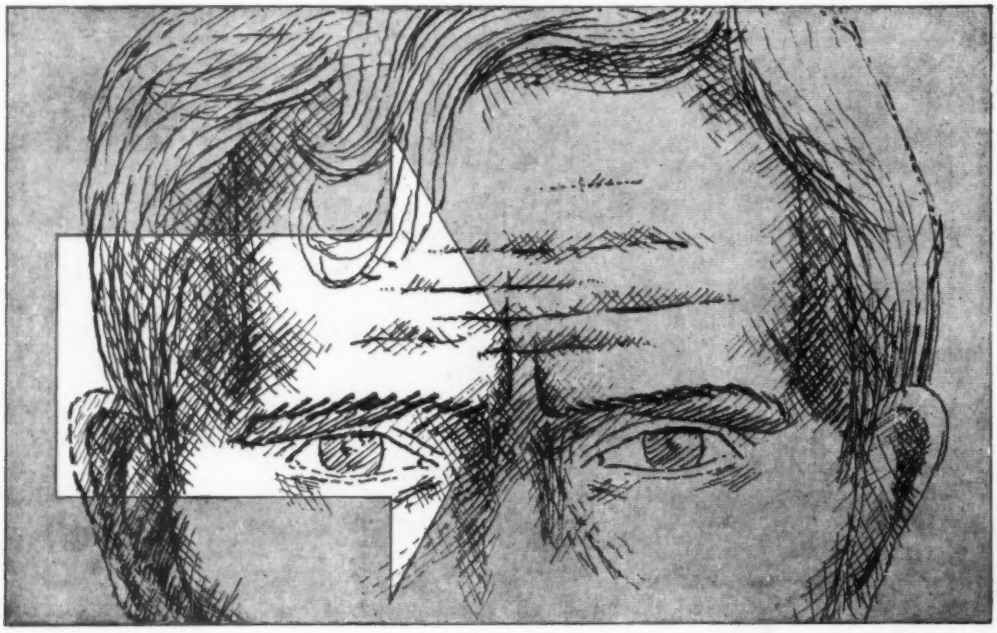

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